Product Support Tool Kit (PSTK)

1 July 2016

**RELEASABILITY, UNLIMITED this document is approved for public release.
Copies may be obtained from the following web sites:**

Product Support Tool Kit SharePoint

Acquisition Document Development and Management (ADDM)

Approved by: AFLCMC/LG
1 July 2016

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INTRODUCTION

INTRODUCTION

The Product Support Tool Kit (PSTK) was developed as a quick reference tool for personnel working life cycle logistics tasks throughout a weapon system's life cycle.

The tasks are presented by Department of Defense Instruction (DoDI) 5000.02 *Operation of the Defense Acquisition System,* Life Cycle Framework phases for easy reference. Each task in this checklist should be evaluated to determine if it is needed on your weapon system and ensure required tasks are completed.   Just because a task is not referenced in your current milestone phase does not mean that it can be skipped.

Appendix A of this document includes checklists that provide more specifics on each task. The checklists include "how to" information, as well as links to reference material.   The material contained in this document can be found on the PSTK SharePoint Site **(https://cs3.eis.af.mil/sites/MC-LG-01-82/default.aspx)**.

Any task within the PSTK that has an expanded checklist in the Appendix is annotated by a hyperlink. All current DOD and Air Force Policy & Instructions were used to develop this list of tasks.

The Milestone Decision Authority (MDA) may authorize entry into the acquisition management system at any point consistent with phase-specific entrance criteria and statutory requirements. For programs that enter at points other than directly after the Material Development Decision (MDD), refer to the chapters of this guide for the phases which were skipped to ensure coverage of required tasks.

This revision includes changes in public law, policy and guidance associated to the stand-up of the 6 Center Construct (6 CC). Specific questions should be addressed through AFLCMC/LGI Workflow. aflcmc.lgi@us.af.mil

AIR FORCE MATERIEL COMMAND

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HQ Air Force Materiel Command
★★★★

AF Life Cycle Mgt Ctr (AFLCMC)
★★★
Wright-Patt AFB

AF Sustainment Ctr (AFSC)
★★★
Tinker AFB

AF Test Ctr (AFTC)
★★
Edwards AFB

AF Research Lab (AFRL)
★★
Wright-Patt AFB

AF Nuc Wpns Ctr (AFNWC)
★★
Kirtland AFB

AF Installation & Mission Support Ctr (AFIMSC)
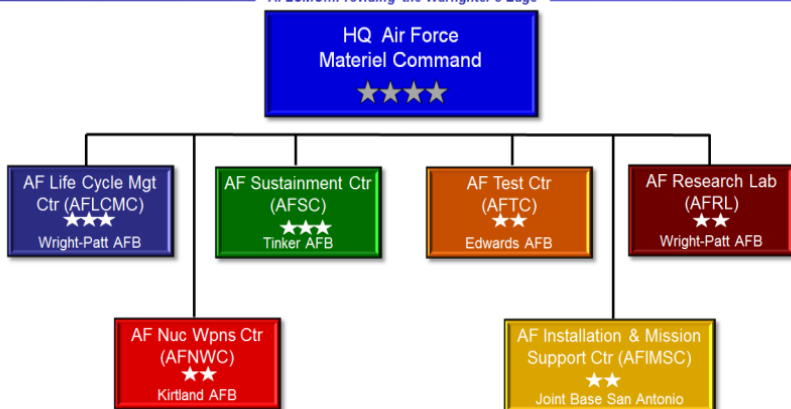★★
Joint Base San Antonio

Figure 1- 6 Center Construct

PRE MATERIEL DEVELOPMENT DECISION (MDD)

This phase is the preparation for the formal entry into Acquisition at MDD. It lays the groundwork within Logistics for various program documents as well as introducing planning considerations that are applicable to the entire life cycle. These key issues if not discussed at an early stage may result in cost, schedule, and performance issues down the road. This phase may take a considerable amount of time and directly relates to the Core Function Master Plan (CFMP).

Integrated Life Cycle Framework
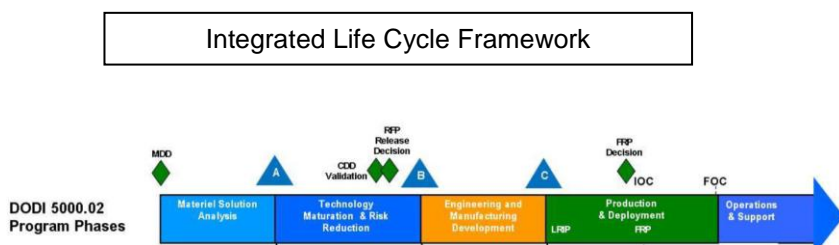
PRE-MDD Figure 1

TASK DESCRIPTION
1.0 SUPPORT CAPABILITY PORTFOLIO ANALYSIS.
The logistician should be a member of the Development Planning team and is responsible for participation in evaluating threats, defense strategies, Concept of Operations (CONOPS), projected costs, performance, capability gaps, product support risks, and portfolio analysis.

The logistician shall address logistics implications during this early concept development phase while potential systems engineering evaluations are being made. Specifically, budget inputs must account for early logistics and data rights support requirements.

1.1 ENSURE INTELLIGENCE INTEGRATION.
This Checklist applies throughout this phase for all tasks. Ensure consideration of the Product Support Elements as stated in DoD Integrated Product Support (IPS) Elements Guidebook. Reference Appendix A, 1.1 Accomplish Intelligence Integration throughout the Life Cycle Checklist. Consider HSI overlapping impacts as contained in 2.13.1 Human Systems Integration (HSI) Checklist.

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1.2 SUPPORT REQUIREMENTS DEVELOPMENT.
INCLUDE SUPPORTABILITY OBJECTIVES IN INITIAL CAPABILITIES DOCUMENT (ICD) (PROBLEM STATEMENT FOR DEFENSE BUSINESS SYSTEMS).
The logistician will work with the MAJCOM user to ensure the ICD contains product support requirements. Ideally, those supportability objectives identified previously should be documented in the ICD to include Technical Data, the Product Support Elements as stated in DoD Integrated Product Support (IPS) Elements Guidebook. Design Interfaces (hardware, software and human), Transition to Operational Support, Fielding, Cost, System Accreditation, Environment, Safety, and Occupational Health (ESOH), System Metrics and Classification Guidance supporting System Health and Maintenance Data Collection, Production, Intelligence, Interoperability, Corrosion Control, Calibration, and Reliability, Availability, Maintainability (RAM), (consistent with the operational support concepts and intended maintainers), and System Life cycle Integrity Management (SLIM) Analyses must also be considered. Human Systems Integration (HSI), (see HSI Acquisition Phase Guide), provides an integrating process to address the human considerations in the ICD. Technical Data includes technical publications, engineering data, and support data (Ref. FAR 52.227-14). The ICD defines the capability gap in terms of the functional area, the relevant range of military operations, desired effects, and time. The ICD supports the concept decision and Milestone A. Logistics, HSI and Intelligence experts should be members of the High Performance Team (HPT) that develops the ICD. Reference Appendix A, 1.2 ICD Checklist.

Dependent upon the discussions, the logistician will contact and include appropriate Air Force Sustainment Center (AFSC) logistics input for early planning efforts.

1.3 MANAGE AND CONDUCT DEVELOPMENT PLANNING (DP) (ENSURE COMPLIANCE WITH AFLCMC PROCESS DIRECTORY (APD), AFLCMC STANDARD PROCESS FOR DEVELOPMENT PLANNING (DP)).
Development planning is the responsibility of AFLCMC/XZ and directorate development planning staff. Specifically for Defense Business Systems, AFLCMC/HIQ, Enterprise Application & integration Division executes Development Planning, and Product Support. It is imperative these teams have a logistician during the entire process from initial gap analysis and brainstorming through initial requirements and budget. Depending on the capability discussions, the AFLCMC logistician will contact AFSC/LG and include logistician input for early planning efforts. The standard AFLCMC processe for "Development Planning" resides in the AFLCMC Process Directory (APD).

1.3.1 DEVELOP AN INITIAL PRODUCT SUPPORT STRATEGY.

The logistician must engage the entire DP team in developing the product support strategy that includes ICD requirements and preliminary planning for RAM, and Cost. The logistician will seek input from all stakeholders, culminating with MAJCOM concurrence. When developing various concepts with regard to data rights, ensure all stakeholders understand the imperative of receiving a product (briefings, documentation) from small technology and trade study contracts as requested by the Government. This will allow Legal to document government ownership of the data rights requirements throughout the life cycle of any application of these efforts.

1.3.1.1 ENSURE DESIGNATION OF A PRODUCT SUPPORT MANAGER (PSM).

IAW Public Law, DoD guidance and AFI 63-101/20-101 a Product Support Manager will be designated with the proper credentials for Acquisition Category (ACAT) I and II programs in the operations and support (O&S) phase and all ACAT III programs, the PM and PSM may be dual-hatted if approved by Air Force Materiel Command (AFMC) or Air Force Space Command (AFSPC) and the PEO.

1.3.2 ENSURE COORDINATION WITH STAKEHOLDERS OUTSIDE OF THE DEVELOPMENT PLANNING (DP).

The logistician must identify the stakeholders that would be affected by the planning effort (e.g., established platform modification programs that may be impacted). Stakeholders include, but are not limited to, supply chain management and depot maintenance in AFSC, AFLCMC, AFRL, AFTC, and AFNWC.

1.3.3 PERFORM LOGISTICS HEALTH ASSESSMENT (LHA).

Although recommended for all acquisition programs, the Logistics Health Assessment (LHA) is required for all AFLCMC programs; all ACAT levels that are listed on the Acquisition Master List (AML), and is to be performed inside the Acquisition Workbench LHA module on a semi-annual basis in all phases of Life Cycle Management. Additionally, the LHA feeds the AFMC Weapon System Enterprise Review (WSER).

1.4 PROVIDE BUDGET AND COST ESTIMATE INPUTS FOR MSA PHASE .

The logistician must ensure that cost estimates and budget inputs include the full life cycle. Specifically, planning for the cost of data rights should be addressed. Technical Maturation Risk Reduction efforts must also include supportability planning and costs from the perspective of the life cycle logistician. (This may require participation from the Applied Technology Council (ATC). Reference Appendix A, 1.4 Ensure Cost Estimate includes All Support Costs.

1.5 RESERVED

1.6 CONCEPT EXPLORATION AND REFINEMENT – CONCEPT
CHARACTERIZATION AND TECHNICAL DOCUMENTS (CCTDS).

A "concept" is a prospective materiel solution to gaps or shortfalls associated with realizing a viable operational requirement. As decision support information, a CCTD summarizes the technical planning and analyses that have been accomplished, and identifies areas of further work needed to mature the concept. While a CCTD addresses operational requirement as part of its content, it primarily serves to capture evolving knowledge of a materiel solution and its constituent elements. The logistician shall be part of the systems engineering process including early planning, trade space exploration, system characterization, and CCTD development. Supportability/sustainment approach and features associated with the various material solutions must be documented in the CCTDs. The logistician shall evaluate RAM impacts from early technology evaluations and materiel solution evaluations. Analogous weapon systems RAM performance and lessons learned are first considered by the logistician, and provided to the CCTD team for concept development purposes.

Consider the impact of the Product Support Elements as stated in DoD Integrated Product Support (IPS) Elements Guidebook, Technical Data, Maintenance Concept, Asset Marking to include Item Unique Identification (IUID) and Intelligence supportability. Ensure logistics related design parameters (Design Interface) such as Reliability, Availability, Maintainability (RAM) Cost, System Life cycle Integrity Management (SLIM), Production, Testability, Human Factors, Systems Safety, Survivability and vulnerability, Hazardous Material Management, Standardization and Interoperability, Energy Management, Corrosion Control, Non-Destructive Inspection, Energy Efficiency, Noise (ambient and occupational), Alternate Fuels considerations System Engineering Process, CCTD Process and life cycle support costs are considered (list not all inclusive).
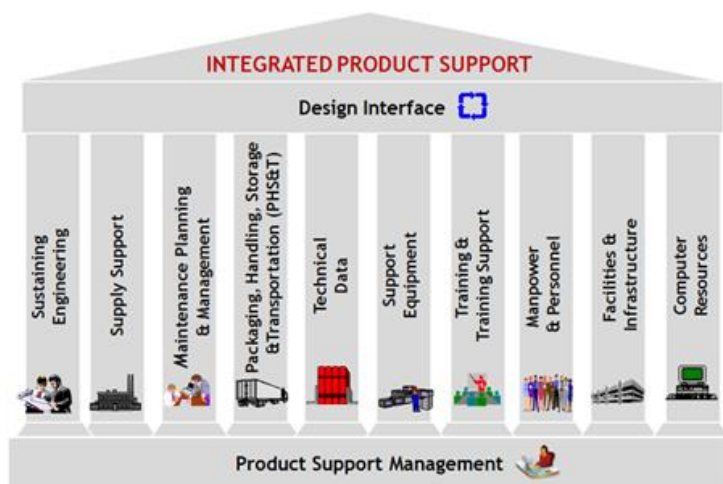
Pre-MDD Figure 2

1.6.1 CONSIDER *APPLICATION OF MODELING, SIMULATION, AND ANALYSIS TOOLS.*
Reference Appendix A, 1.6.1 Consider application of modeling, simulation and analysis tools Checklist.

1.7 ANALYSIS *OF ALTERNATIVES (AOA) STUDY GUIDANCE AND PLAN.*
The logistician must ensure the AoA study plan identifies how product support will be accounted for and evaluated during the AoA. The logistician shall be a member within the AoA Working Group(s) that are addressing product support elements. Ideally, Product Support can be formed to be a specific AoA Working Group. At a minimum, the logistician should be involved with assessing Product Support for each potential materiel solution concept being evaluated within the AoA. Remember if product support is not addressed in the AoA study plan it will not be addressed in the AoA. Reference Appendix A, 1.7 Analysis of Alternatives Checklist.

### 1.8 PREPARE *FOR MATERIAL DEVELOPMENT DECISION (MDD)*
Prepare documents for MDD.
Note: A favorable MDD does not mean a new acquisition program has been initiated. Program initiation normally begins at Milestone B.
Determine if this workload should be on the Acquisition Master List.
Contact SAF/AQX for information. Ensure your center workload assignment process is followed. Contact AFLCMC/XP, Plans and Programs.

Ensure tasks from previous phase are addressed/accomplished prior to entering next acquisition phase. The purpose of this phase is to assess potential materiel solutions and to satisfy the phase-specific entrance criteria for the next program milestone designated by the Milestone Decision Authority (MDA). Entrance into this phase depends upon an approved Initial Capabilities Document (ICD) resulting from the analysis of current mission performance and an analysis of potential concepts across the DoD Components, international systems from allies, and cooperative opportunities. Following the Materiel Development Decision (MDD), the MDA may authorize entry into the acquisition management system at any point consistent with phase-specific entrance criteria and statutory requirements.

Integrated Life Cycle Framework
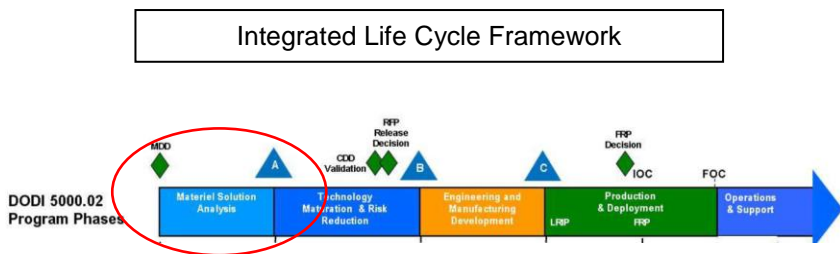
MDD Figure 3

TASK DESCRIPTION

2.0 ANALYZE MATERIEL DEVELOPMENT DECISION (MDD) FOR SUPPORTABILITY IMPLICATIONS.
A Materiel Development Decision (MDD) will precede the MDA authorization to enter into this phase. At the MDD review the Joint Staff will present the Joint Requirements Oversight Council (JROC) recommendations. (Reference DoDI 5000.02). This is the formal entry into the acquisition process and is mandatory for all programs. Evaluate the impact of the decision on any logistics for new or existing systems. Also evaluate the potential impact on Manpower, Personnel, Training and any unique human interface design requirements with respect to new or existing systems. Review the Enterprise Logistics Flight Plan (ELFP) to ensure processes align to current/future Air Force way of doing business.

2.1 MANAGE DEVELOPMENT PLANNING (DP) EFFORT (PRE-MS A) (ENSURE COMPLIANCE WITH AFLCMC "PRE-MILESTONE A PRODUCT SUPPORT" PROCESS).

The logistician is responsible for product support inputs during the AoA, transitioning DP effort including product support knowledge to the Program Office, providing Life Cycle Cost and associated Program Office Memorandum (POM) inputs, documenting the Life Cycle Sustainment Plan, and coordinating the core determination and candidate depot assignment. Reference AFLCMC Process Directory (APD), AFLCMC Standard Process for Development Planning (DP).

2.1.1 PARTICIPATE IN ESTABLISHING PROGRAM FRAMEWORK (REFERENCE AFLCMC PROCESS DIRECTORY (APD), AFLCMC STANDARD PROCESS FOR DEVELOPMENT PLANNING (DP)).

This is a deliberate effort to cover all planning documents and functional integration to help prepare for program establishment. The designated program logistician shall engage with all stakeholders to ensure product support considerations are addressed in this initial planning task.

2.2 ENSURE DESIGNATION OF A PRODUCT SUPPORT MANAGER (PSM).

IAW Public Law, DoD guidance and AFI 63-101/20-101 a Product Support Manager will be designated with the proper credentials for Acquisition Category (ACAT) I and II programs in the operation and sustainment (O&S) phase and all ACAT III programs, the PM and PSM may be dual-hatted if approved by Air Force Materiel Command (AFMC) or Air Force Space Command (AFSPC) and the PEO.

2.2.1 PERFORM LOGISTICS HEALTH ASSESSMENT (LHA).

Although recommended for all acquisition programs, the Logistics Health Assessment (LHA) is required for all AFLCMC programs; all ACAT levels that are listed on the Acquisition Master List (AML), and is to be performed inside the Acquisition Workbench LHA module on a semi-annual basis in all phases of Life Cycle Management. Additionally, the LHA feeds the AFMC Weapon System Enterprise Review (WSER).

2.3 DEFINE SUPPORTABILITY OBJECTIVES.

Reference Appendix A, 2.3 Define Supportability Objectives Checklist. The logistician shall revise the Product Support Strategy, if applicable after MDD, with MAJCOM user concurrence.

2.3.1 IDENTIFY SYSTEM LIFE CYCLE INTEGRITY MANAGEMENT (SLIM) REQUIREMENTS.

Reference Appendix A, 2.3.1 Implement SLIM Processes and Programs Checklist.

2.4 DEFINE INTELLIGENCE INTEGRATION DURING MATERIEL SOLUTION ANALYSIS.

This Checklist applies throughout this phase for all tasks. Ensure consideration of the Product Support Elements as stated in DoD Integrated Product Support (IPS) Elements Guidebook. Reference Appendix A, 1.1 Accomplish Intelligence Integration throughout the Life Cycle Checklist. Consider HSI overlapping impacts as contained in 2.13.1 Human Systems Integration (HSI) Checklist.

2.5 INCLUDE SUPPORTABILITY OBJECTIVES IN INITIAL CAPABILITIES DOCUMENT (ICD).

Those supportability objectives identified previously should be documented in the ICD to include Technical Data; the Product Support Elements as stated in DoD Integrated Product Support (IPS) Elements Guidebook, and Asset Marking, including Item Unique Identification (IUID). Design Interfaces (hardware, software and human), Transition to Operational Support, Cost, Fielding, System Accreditation, Environment, Safety, and Occupational Health (ESOH), System Metrics and Classification Guidance supporting System Health and Maintenance Data Collection, Production, Intelligence, Interoperability, Corrosion Control, RAM, (consistent with the operational support concepts and intended maintainers), and System Life cycle Integrity Management (SLIM) Analyses must also be considered. Human Systems Integration (HSI), (see HSI Acquisition Phase Guide), provides an integrating process to address the human considerations in the ICD. Technical Data includes technical publications, engineering data, and support data (Ref. FAR 52.227-14). The ICD defines the capability gap in terms of the functional area, the relevant range of military operations, desired effects, and time. The ICD supports the concept decision and Milestone A. Logistics, HSI and Intelligence experts should be members of the High Performance Team (HPT) that develops the ICD. Reference 1.3 in the DP Process Guide. Reference Appendix A, 1.2 ICD Checklist.

2.6 INCLUDE PRODUCT SUPPORT CAPABILITIES IN ANALYSIS OF ALTERNATIVES (AoA).

Reference AFLCMC Process Directory(APD), AFLCMC Standard Process for Development Planning. Reference Appendix A, 1.7 Analysis of Alternatives Checklist.

2.7 RESERVED

2.8 EVALUATE PRODUCT SUPPORT CAPABILITY IN ANALYSIS OF ALTERNATIVES (AoA) FOR THE BEST MATERIAL APPROACHES.

The logistician must evaluate product support capability within each CCTD during the AoA process. The logistician shall be a member of the AoA Working Group(s) that is addressing product support elements. Ideally, Product Support can be formed to be a specific AoA Working Group.

2.9 PARTICIPATE IN AND DOCUMENT THE INITIAL TECHNOLOGY REVIEW.
Current organization and operations are discussed and compared to possible new ways of providing the capability. The methodology is described and results and conclusions of the initial analysis are presented. Consider the impact of the Product Support Elements as stated in DoD Integrated Product Support (IPS) Elements Guidebook, Technical Data, Maintenance Concept, Asset Marking to include Item Unique Identification (IUID) and Intelligence supportability. Ensure logistics related design parameters (Design Interface) such as Reliability, Availability, Maintainability (RAM), Cost, System Life cycle Integrity Management (SLIM), Production, Testability, Human Factors, System Safety, Survivability and Vulnerability, Hazardous Material Management, Standardization and Interoperability, Energy Management, Corrosion Control, Non-Destructive Inspection, Energy Efficiency, Noise (ambient and occupational), Alternate Fuels considerations and life cycle support costs are considered (list not all inclusive). Human Systems Integration (HSI), (see HSI Acquisition Phase Guide), provides an integrating process to address the human aspect of these areas.

2.9.1 ADDRESS ENVIRONMENT, SAFETY, AND OCCUPATIONAL HEALTH (ESOH) CONSIDERATIONS.
Reference Appendix A, 2.9.1 Address Environment, Safety and Occupational Health Checklist.

2.10 INCLUDE PRODUCT SUPPORT CONCEPTS IN PREFERRED SYSTEM CONCEPT.
Reference Appendix A, 2.10 Product Support Capabilities in Preferred System Concept Checklist.

2.11 PARTICIPATE IN DEFINING, ANALYZING AND SELECTING COURSE OF ACTION (COA).
The COA presents Headquarters Air Force (HAF) and the lead MAJCOM commander with acquisition strategy options for the selected materiel solution resulting from AoAs. The AoAs should clearly articulate performance, schedule, and cost expectations as well as initial risk assessment of the program to ensure expectations are known and agreed to up front. The COA will serve as the basis for the Acquisition Strategy, Technical Maturation Risk Reduction (TMRR), Test & Evaluation (T&E) Strategy, Life Cycle Sustainment Plan (LCSP) and Program Management / Services Management Agreement (PMA/SMA). Approval at the lead MAJCOM commander and MDA level for the selected COA will ensure agreement among leadership on program expectations, risks and performance for specified cost and schedule goals. Ensure COA addresses product support capabilities and alternatives. Logistics, HSI and Intelligence experts should be members of the High Performance Team (HPT) that develops the COA. Review the Enterprise Logistics

Flight Plan (ELFP) to ensure processes align to current/future Air Force way of doing business. Reference AFLCMC Process Directory (APD), AFLCMC Standard Process for Development Planning (DP).

2.12 PARTICIPATE *IN DEVELOPING AND BUILDING THE MILESTONE (MS)-A TEST AND EVALUATION MASTER PLAN (TEMP).*
The MS-A TEMP will evolve into a complete TEMP due at Milestone B. Ensure the MS-A TEMP addresses product support capabilities, alternatives, and testability to include calibration. Ensure Intelligence support concept and technologies are included in the TEMP. Ensure logistics, HSI, and Intelligence experts interact with the Integrated Test Team (ITT) to address the testing of product support capabilities and alternatives. Ensure that HSI specific concerns and impacts are identified and addressed.

2.13 PARTICIPATE *IN SYSTEM ENGINEERING PLAN (SEP) DEVELOPMENT.*
The purpose of the SEP is to document the systems engineering effort guiding all technical aspects of the program from the technical strategy. The SEP provides the overarching plan for bringing the hardware, software, and human sub-systems into an integrated system. The SEP will follow the DoD SEP Outline and address all key design considerations in the SEP Outline, including: System Engineering (SE) Tradeoff Analysis for Affordability; Corrosion Prevention and Control (ACAT I only); Environment, Safety, and Occupational Health (ESOH); Human Systems Integration (HSI); Item Unique Identification (IUID); Manufacturing; Open Systems Architectures; Program Protection and Information Assurance; and Reliability and Maintainability. The DoD SEP outline is available at http://www.acq.osd.mil/se/docs/PDUSD-Approved.SEP_Outline-04-20-2011.docx. The SEP is developed early in the materiel solution analysis phase and updated prior to each subsequent Milestone. It should also incorporate the planning that is consistent with Technology Readiness Assessments and successfully execute the Technical Maturation Risk Reduction (TMRR). It should be a living document, tailored to the program, and should serve as a road map to support program management by defining comprehensive system engineering activities, addressing both government and contractor technical activities and responsibilities. Ensure HSI planning is documented in the SEP. Ensure Intelligence requirements and deficiencies are addressed. Review the Enterprise Logistics Flight Plan (ELFP) to ensure processes align to current/future Air Force way of doing business. The logistician needs to be included on the team to ensure Reliability, Availability, Maintainability (RAM), Cost, RAM-C Rationale Report, System Life cycle Integrity Management (SLIM), Corrosion Prevention and Control Plan (CPCP), Configuration Management (CM), Reliability and Maintainability (R&M) and other product support factors are addressed during engineering analysis and documented in the plan. See AFPAM 63-128, *Integrated Life*

Cycle Management. Reference Appendix A, 2.13 SEP Checklist and 2.3.1 Implement SLIM Processes and Programs Checklist.

2.13.1 ADDRESS HUMAN SYSTEMS INTEGRATION (HSI) CONSIDERATIONS.
Reference Appendix A, 2.13.1 Human Systems Integration (HSI) Checklist.

2.13.2 APPLICATION OF MODELING, SIMULATION, AND ANALYSIS TOOLS.
Reference Appendix A, 1.6.1 Consider application of modeling, simulation and analysis tools Checklist.

2.13.3 CREATE AND COORDINATE ITEM UNIQUE IDENTIFICATION (IUID) IMPLEMENTATION PLAN.
The IUID Implementation plan must be completed at the establishment of a program. See AFPAM 63-128, *Integrated Life Cycle Management*. Reference Chapter 8 for guidance and attachment 3 for a template.

2.14 CONDUCT DEVELOPMENT PLANNING. (ENSURE COMPLIANCE WITH AFLCMC DP PROCESS).
The logistician and PSM should be involved and monitoring technical transition progress and initiatives, always keeping in mind long-term support requirements. This may impact cost estimates, budget estimates, planning documents, HSI, ESOH, and test plans. AFLCMC Process Directory (APD).

2.15 DEVELOP INITIAL PRODUCT SUPPORT STRATEGY IN THE LIFE CYCLE SUSTAINMENT PLAN (LCSP).
The logistician will further develop with the Lead MAJCOM the product support strategy, and expand the view to include all LCSP requirements. The logistician will seek input from all stakeholders, to include AFSC, culminating with MAJCOM concurrence. Reference AFI 63-101/20-101, *Integrated Life Cycle Management.*

The logistician must identify the stakeholders that would be affected by the planning effort (e.g., established platform modification programs that may be impacted). Stakeholders include, but are not limited to, supply chain management, packaging, transportation, and depot maintenance in AFSC, acquisition within AFLCMC, AFRL, AFTC, and AFNWC. Relationships among these USAF organizations are critical to ensure consistency of data usage. Data is used for planning, budgeting, maintenance, and execution of the supply chain, depot operations and MAJCOM support. Use the Next Generation CLS Contract Sustainment Support Guide (CSSG), DoD PBL Guide, and maximize use of existing Government Supply Chain for proven best practices in developing product support strategies. Reference Appendix A, 2.15 Initial Product Support Strategy in LCSP Checklist. However, per AFI 63-101/20-101, for Air Force programs delegated to the SAE and below, that have an approved Life Cycle Management Plan (LCMP) (as of the publishing date of this

instruction), the MDA may approve the continued use of the LCMP for the life of the program. Program must review reference to ensure all requirements are met to maintain an LCSP/LCMP. Ensure coordination with stakeholders. Reference [AFLCMC Process Directory](#) (APD), Development and Coordination of Life Cycle Sustainment Plan (LCSP)

2.15.1 REVIEW REQUIREMENTS DOCUMENTS / INITIAL CAPABILITY DOCUMENT (ICD).

2.15.1.1 REVIEW UNIQUE MUNITIONS ACQUISITION ACTIVITIES.
Reference Appendix A, [2.15.1.1 Unique Munitions Acquisition Activities Checklist](#).

2.15.2 REVIEW STRATEGIES FOR SIMILAR PRODUCTS / STRATEGIES.

2.15.3 UPDATE THE PRODUCT SUPPORT STRATEGY. UPDATE THE PRODUCT SUPPORT STRATEGY WITH LEAD MAJCOM CONCURRENCE, BASED UPON THE AOA AND OTHER MILESTONE A DOCUMENTS.

2.15.4 CONDUCT RISK ASSESSMENT FOR ALTERNATIVES.

2.15.5 PARTICIPATE IN DEVELOPING COST ESTIMATE FOR ALTERNATIVES.
Cost estimates should include all phases of the program including development, procurement, and operating & support costs. Cost estimates should be based on the best available estimating methodologies using a parametric, analogy, or bottoms-up approach. Create a work-breakdown structure to ensure your cost estimate covers all applicable costs. The Air Force Total Ownership Cost (AFTOC) database is a good starting point for cost estimates. Ensure that cost estimates actually look at the comparative personnel costs of the various alternatives. This should be expanded to correctly capture the Cost Analysis Requirements Description (CARD) or other similar document and ensure that the full costs are considered. The use of Logistics Composite Model (LCOM) or similar data to run Manpower Personnel and Training (MPT) analyses for various maintenance/support concepts can be very effective in driving the design rather than reacting to it.

2.15.5.1 PARTICIPATE IN ALTERNATIVE SYSTEMS REVIEW (ASR) (EN) OUTPUT – DECISION. TYPICALLY DONE AFTER AOA AND PREFERRED MATERIEL SOLUTION SELECTED.

2.15.6 EDIT AND COORDINATE WRITING OF LIFE CYCLE SUSTAINMENT PLAN (LCSP).

2.15.7 RESERVED

2.15.8 APPROVE PRODUCT SUPPORT STRATEGY(S) AT THE ACQUISITION STRATEGY PANEL (ASP).

2.15.9 FINALIZE LCSP BASED ON ASP RECOMMENDATIONS.

2.16 ENSURE *SUPPORTABILITY IN* ***PROGRAM MANAGEMENTSERVICES MANAGEMENT AGREEMENTS (PMA/SMAs).*** Reference Appendix A, 2.16 Ensure Supportability Included in PMA/SMAs Checklist.

2.17 INCLUDE *SUPPORTABILITY IN THE* ***SOURCE SELECTION PLAN (SSP).*** Reference Appendix A, 2.17 Include Supportability in the SSP Checklist.

2.18 PARTICIPATE *IN THE* ***ACQUISITION STRATEGY REVIEW.***

2.19 COMPLETE *ACQUISITION* ***STRATEGY PLAN (ASP)*** *SUPPORTABILITY* ***TEMPLATE.***

The Acquisition Strategy will guide this phase. Multiple technology development demonstrations, defined in the acquisition strategy, may be necessary before the operational user and material developer can substantiate that a preferred solution is feasible, affordable, and supportable; satisfies validated capability requirements; and has acceptable technical risk. Critical program information will be identified during this phase and program protection measures to prevent disclosure of critical information will be implemented.

The ASP briefing template provides an idea of the types of information SAF/AQ, Assistant Secretary of the Air Force (Acquisition) will expect to be addressed to include Human System Integration and Environment, Safety, and Occupational Health. The template can be adjusted as necessary to meet unique program information and technical data requirements. The product support strategy, with inputs from the PSM/logistician, is part of the template to address sources of repair and supply, performance based logistics, Product Support Key Performance Parameter (KPP) compliance, etc. For guidance on ASPs see the Acquisition Excellence and Change Office (SAF/AQXC). Service acquisition strategy templates are found on Acquisition Document Development and Management (ADDM).

2.20 INCLUDE *SUPPORTABILITY* ***REQUIREMENTS*** *IN* ***REQUEST FOR PROPOSAL (RFP).***

Reference Appendix A, 2.20 Include Supportability Requirements in RFP Checklist and 3.50.1 Manage TO Acquisition Program Checklist. (Reference AFLCMC Process Directory (APD), AFLCMC Standard Process for Development Planning (DP).

2.21 DEVELOP *THE* ***"INTELLECTUAL PROPERTY (IP) STRATEGY (IPS)"*** *AND* ***INCLUDE DATA AND DATA RIGHTS IN THE REQUEST FOR PROPOSAL (RFP).***

The logistician shall participate in the effort with all Program Office stakeholders (PM, EN, PK, FM, Legal, etc.) to develop the initial Intellectual Property (IP) Strategy (IPS). The strategy shall address the data requirements throughout the system life cycle, to include associated data rights. The Air Force shall request and verify delivery of all of the data and data rights entitled through contractual requirements or

government funding of development of the part or system. The contractor will need to provide a matrix identifying all data rights that they assert. The burden of proof that the contractor is allowed to retain rights to data is now on the contractor per Title 10 USC 2320 and 10 USC 2321. The contractor may want to offer up rights that they could otherwise retain to enhance their position during source selection. The actual rights received by the Air Force will result from negotiations. All ACAT I and ACAT II programs, regardless of planned product support strategy, shall assess the long-term technical data needs (including product definition, operations, maintenance, installation and training data) and reflect that assessment in the Intellectual Property (IP) Strategy (IPS). For the acquisition of engineering data, reference DoDI 5000.02 Enclosure 12. While not required by regulation, this strategy is also recommended for ACAT III programs. Also see Product Data Acquisition (PDAQ) Guidance on PDAQ web page. Reference Appendix A, 2.20 Include Supportability Requirements in RFP Checklist.

2.21.1 REVIEW BERRY AMENDMENT (TITLE 10 U.S.C. 2533A IN SECTION 832) FOR APPLICATION TO YOUR PROGRAM AND ENSURE COMPLIANCE IN ALL CONTRACTING ACTIONS.

2.21.2 INCLUDE OPTIONS FOR RADIO-FREQUENCY IDENTIFICATION (RFID) IN THE REQUEST FOR PROPOSAL (RFP) (AS APPLICABLE).

RFID is an automatic identification method, relying on storing and remotely retrieving data using devices called RFID tags or transponders. A significant thrust in RFID use is in enterprise supply chain management, improving the efficiency of inventory tracking and management. Ensure that provisions for RFID are considered for inclusion in the RFP.

2.21.3 INCLUDE CONTRACT REQUIREMENTS FOR ITEM UNIQUE IDENTIFICATION (IUID) IN THE REQUEST FOR PROPOSAL (RFP).

IUID is the set of data for tangible assets that is globally unique and unambiguous and ensures data integrity and data quality throughout life, and supports multi-faceted business applications and users. Ensure provisions for IUID marking are included in the RFP to include marking of Support Equipment/Automatic Test Systems and production tooling & templates. IUID is integral to completion of program requirements for the Military Equipment Program Valuation (MEPV) and GFP accountability.

2.21.4 DEFINE CONTRACTOR SUPPORTED WEAPON SYSTEM (CSWS) DATA REQUIREMENTS. Reference Appendix A, 2.21.4 Define CSWS Data Requirements Checklist.

2.22 ADDRESS PRODUCT SUPPORT RISK MANAGEMENT.

A risk management approach for use in the acquisition of new systems, end-items, and equipment based upon four attributes: risk management planning, risk assessment, risk mitigation, and risk management control.

When properly implemented, an effective risk management program facilitates identification of areas that require special attention and sets realistic, executable technical, schedule, and cost objectives. Risk Management is applicable to all phases and aspects of any acquisition or modernization program. The logistician needs to participate on the risk management team to ensure identification of any risk relative to the product support element, systems engineering and life cycle support costs, schedule and technical performance. The appropriate reference is AFI 63-101/20-101, Chapter 3, para 3.10.6 PS Risk Mgmt. Product Support risks need to be addressed and documented within each CCTD. These risk assessments must address adverse impacts on warfighters capabilities to operate, maintain and support the system in an effective and safe manner. Consideration must also be given to reclamation, demilitarization and disposal. Appendix A 2.22 Participate in Integrated Baseline Review (IBR) Checklist.

2.23 INCLUDE LOGISTICS ACTIVITIES IN THE INTEGRATED MASTER PLAN/INTEGRATED MASTER SCHEDULE (IMP/IMS).

Reference Appendix A, 2.23 Include Product Support Activities in the IMP/IMS Checklist.

2.24 PARTICIPATE IN SOURCE SELECTION.

2.24.1 INITIATE THE DEPOT SOURCE OF REPAIR (DSOR) PROCESS.

The DSOR process is the method by which the DoD postures for depot level maintenance workloads – organic or contract (regardless of the source of funds for maintenance or repair). It applies to workloads for hardware, software, new acquisitions, and fielded systems whether the Government or private contractor manages the system or subsystem. All weapon systems, end items, support equipment, and their components that require or are planned to require depot level maintenance require a DSOR determination prior to Milestone (MS) B per AFI 63-101/20-101, *Integrated Life Cycle Management* (MS C or DSOR need date for programs entering after MS B). For fielded systems, the process will be initiated as soon as a change in posture is considered. The Program Manager (PM) must initiate DSOR planning early in the life cycle and document it in the LCSP. All programs will use the DSOR Automated Management System (DSOR II) except for Special Access Programs which use an off-line process.

The DSOR process is comprised of two phases involving several activities each tied to specific events in the acquisition life cycle. Phase I, Source of Repair Assignment (SORA), is when the Air Force determines Core determination and makes its depot maintenance Source of Repair (SOR) recommendation. Phase II, Depot Maintenance Inter-service (DMI) review, is where the DoD Services collaboratively determine the final SOR activity.

Note: Funds shall not be committed to facilitate a specific site for depot maintenance prior to receiving the final DSOR decision. See AFI 63-101/20-101. Reference Appendix A, 2.24.2 Initiate the DSOR Process Checklist.

2.24.2 DETERMINE THE CORE DETERMINATION AND CANDIDATE DEPOT ASSIGNMENT.

Phase I of the DSOR process (SORA) is to determine Core determination and the Air Force Candidate Depot Assignment as outlined in task 2.24.2. This Core determination is critical and is necessary for Title 10 USC 2464 and legislative reporting compliance. Core is the organic depot capability required to assure mission support for weapon systems designated for fulfilling strategic and contingency plans. Specifically, Title 10 USC 2464 states the DoD will retain a logistic repair capability of technical competencies and resources to meet national defense situations. Workloads are used to retain the repair capability on legacy and new and emerging technologies. Core is identified by tasked system to meet Combatant Command (COCOM) requirements. Core workload must be performed in government-owned facilities, with government- owned equipment and repair capability performed by government personnel. The core determination analysis will be completed prior to Milestone A (per Title 10 USC 2366a) and the results of the analysis will be documented in the Core Logistics Analysis Annex to the LCSP. In addition, the candidate depot is identified by the Air Logistics Complex repair capability and are identified as a CITE (Centers of Industrial and Technical Excellence). Once Core determination is made the SORA process determines the projected workload, and finally, the AF depot source of repair candidate recommendation (final decision is accomplished via DSOR Phase II, Depot Maintenance Inter-service coordination). Reference Appendix A, 2.24.2 Initiate the DSOR Process Checklist.

2.25 ENSURE COST ESTIMATES INCLUDE LIFE CYCLE SUPPORT COSTS.

Reference Appendix A, 1.4 Ensure Cost Estimate Includes all support Costs Checklist.

2.26 PREPARE DOCUMENTATION REQUIRED FOR MILESTONE A.

Per Title 10 USC 2366A, the MDA must provide a signed certification memorandum for record prior to Milestone A approval. Reference Appendix A, 2.26 Prepare Documentation for Milestone A Checklist. Note: A favorable Milestone A decision does not mean a new acquisition program has been initiated. Program initiation normally begins at Milestone B. Determine if this workload should be on the Acquisition Master List/Program Master List. Contact SAF/AQX, Acquisition Excellence and Change Office for information. (Reference AFLCMC Process Directory (APD), AFLCMC Standard Process for Development Planning (DP))

Exit Criteria: Milestone A Decision Memorandum

TECHNICAL MATURATION RISK REDUCTION (TMRR)

Ensure tasks from previous phase are address/accomplished prior to entering next acquisition phase. The purpose of this phase is to reduce technology risk and mature the appropriate set of technologies to be integrated into a full system, and to demonstrate Critical Technology Elements (CTEs) on prototypes. Technical Maturation Risk Reduction is a continuous technology discovery and development process reflecting close collaboration between the Science & Technology community, the user, and the system developer. It is an iterative process designed to assess the viability of technologies while simultaneously refining user requirements. Following the Materiel Development Decision (MDD), the MDA may authorize entry into the acquisition management system at any point consistent with phase-specific entrance criteria and statutory requirements. Joint Urgent Operational Need (JUON) and Quick Reaction Capability (QRC) each have a process which allows for concurrency and relief from some requirements; however, documentation with rationale is highly encouraged. For efforts that enter at Milestone (MS) A, ensure coverage of tasks in the previous chapter.

Integrated Life Cycle Framework
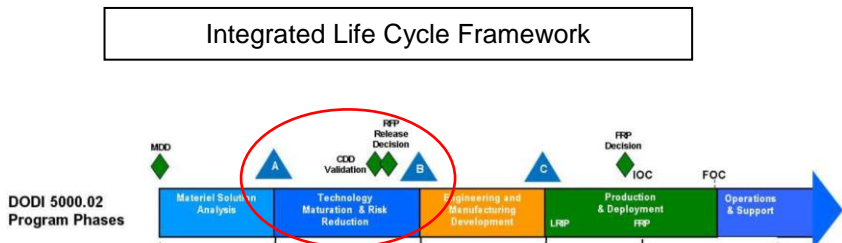
TMRR Figure 1

TASK DESCRIPTION

3.1 ENSURE DESIGNATION OF A PRODUCT SUPPORT MANAGER (PSM).
IAW Public Law, DoD guidance and AFI 63-101/20-101 a Product Support Manager will be designated with the proper credentials for Acquisition Category (ACAT) I and II programs in the operation and sustainment (O&S) phase and all ACAT III programs, the PM and PSM may be dual-hatted if approved by Air Force Materiel Command (AFMC) or Air Force Space Command (AFSPC) and the PEO.

3.2 ENSURE ADEQUATE LOGISTIC RESOURCES ARE CONSIDERED AND ASSIGNED FOR THE PROGRAM.

Ensure a logistician is assigned and considers all 12 Product Support elements listed in DoD Integrated Product Support (IPS) Elements Guidebook. IAW AFI 63-101/20-101, a PSM should be assigned (as applicable). Acquisition Sustainment Unit (ASU) Model may be used.

3.2.1 ESTABLISH A TECHNICAL ORDER (TO) ACQUISITION PROGRAM

Reference Appendix A, 3.2.1 Establishing a TO Acquisition Program Checklist.

3.2.2 ASSIGN TECHNICAL ORDER MANAGER.

3.2.3 PERFORM LOGISTICS HEALTH ASSESSMENT (LHA).

Although recommended for all acquisition programs, the Logistics Health Assessment (LHA) is required for all AFLCMC programs; all ACAT levels that are listed on the Acquisition Master List (AML), and is to be performed inside the Acquisition Workbench LHA module on a semi-annual basis in all phases of Life Cycle Management. Additionally, the LHA feeds the AFMC Weapon System Enterprise Review (WSER).

3.3 ENSURE ADEQUATE INTELLIGENCE RESOURCES ARE CONSIDERED AND ASSIGNED FOR THE PROGRAM.

Ensure an Intelligence professional is assigned and considers all Intelligence Supportability elements. Reference Appendix A, 1.1 Accomplish Intelligence Integration throughout the Life Cycle Checklist.

3.4 INITIATE THE DEPOT SOURCE OF REPAIR (DSOR) PROCESS.

The DSOR process is the method by which the DoD postures for depot level maintenance workloads – organic or contract (regardless of the source of funds for maintenance or repair). It applies to workloads for hardware, software, new acquisitions, and fielded systems whether the Government or private contractor manages the system or subsystem. All weapon systems, end items, support equipment, and their components that require or are planned to require depot level maintenance require a DSOR determination prior to Milestone (MS) B per AFI 63-101/20-101, *Integrated Life Cycle Management* (MS C or DSOR need date for programs entering after MS B). For fielded systems, the process will be initiated as soon as a change in posture is considered. The Program Manager must initiate DSOR planning early in the life cycle and document it in the LCSP. All programs will use the DSOR Automated Management System (DSOR II) except for Special Access Programs which use an off-line process.

The DSOR process is comprised of two phases involving several activities each tied to specific events in the acquisition life cycle. Phase I, Source of Repair Assignment (SORA), is when the Air Force determines Core determination and makes its depot maintenance Source of Repair (SOR)

recommendation. Phase II, Depot Maintenance Inter-service (DMI) review, is where the DoD Services collaboratively determine the final SOR activity. Note: Funds shall not be committed to facilitate a specific site for depot maintenance prior to receiving the final DSOR decision. See AFI 63-101/20-101. Reference Appendix A, 2.24.2 Initiate the DSOR Process Checklist.

3.4.1 INITIATE THE PRODUCT SUPPORT BUSINESS CASE ANALYSIS (PS BCA).

The PM/PSM shall perform a product support BCA to validate the product support strategy is cost effective, financially feasible, and optimizes system readiness. The product support BCA is required for ACAT I and II programs but is at the discretion of the MDA for ACAT III programs. The PM/PSM shall document the strategy decision and rationale in the LCSP. The PM/PSM shall maintain a complete history of BCAs over the course of the system life cycle to track decisions and understand how real-world operations cause program impacts. The PM/PSM revalidates the business case prior to any change in the product support strategy or every 5 years, whichever occurs first (per AFI 63-101/20-101). The Product Support BCA must follow the DoD Product Support BCA Guidebook. For major weapon systems this can take 1-2 years to complete. The PSM/Logistician will be actively leading this process. For small modifications (Non ACAT programs), the weapon system BCA should be reviewed to determine if an update is required, but an economic analysis is required to justify the modification requirement. Reference Checklist 3.4.1, Product Support (PS) Business Case Analysis (BCA) Checklist.

3.5 DETERMINE THE CORE DETERMINATION AND CANDIDATE DEPOT ASSIGNMENT.

Phase I of the DSOR process (SORA) is to determine Core determination and the Air Force Candidate Depot Assignment as outlined in task 2.24.2. This Core determination is critical and necessary for Title 10 USC 2464 and legislative reporting compliance. Core is the organic depot capability required to assure mission support for weapon systems designated for fulfilling strategic and contingency plans. Specifically, Title 10 USC 2464 states the DoD will retain a logistic repair capability of technical competencies and resources to meet national defense situations. Workloads are used to retain the repair capability on legacy and new and emerging technologies. Core is identified by tasked system to meet Combatant Command (COCOM) requirements. Core workload must be performed in government-owned facilities, with government- owned equipment and repair capability performed by government personnel. The core determination analysis will be completed prior to Milestone A (per Title 10 USC 2366a) and the results of the analysis will be documented in the Core Logistics Analysis Annex to the LCSP. In addition the candidate

depot is identified by the Air Logistics Complex repair capability and are identified as a CITE (Centers of Industrial and Technical Excellence). Once Core determination is made the SORA process determines the projected workload and finally, the AF depot source of repair candidate recommendation (final decision is accomplished via DSOR Phase II, Depot Maintenance Inter-service coordination). Reference Appendix A, 2.24.2 Initiate the DSOR Process Checklist.

3.6 ESTABLISH *THE DEPOT MAINTENANCE ACTIVATION WORKING GROUP* (DMAWG) *TEAM.* The objective of the DMAWG is to ensure a required depot maintenance capability is set up in a timely and efficient manner to achieve government-controlled capabilities for the depot repair. The DMAWG is the forum for conducting depot source of repair planning and activation to ensure funding, contracting, and delivery of data is accomplished. If support concept is total Contractor Logistics Support (CLS), a DMAWG is not required; however a Contractor Depot Activation Plan is still required. If Depot activation stands up depot repair capability at another DoD Service ensure DMISA development is included in list of activation activities. Reference Appendix A, 3.6 Establish DMAWG Team Checklist.

3.6.1 ESTABLISH *PERIODIC LOGISTICS PLANNING MEETINGS.*
The purpose is to coordinate and plan logistics management to ensure supportability of developed and fielded systems with all stakeholders (sometimes called an Integrated Logistics Support Team). Logisticians should ensure they participate in other program reviews. (e.g., Program Management Reviews (PMR), Test Reviews, Configuration Reviews, System Requirements Review etc.).

3.7 AWARD *THE TECHNICAL MATURATION RISK REDUCTION CONTRACT.*

3.7.1 ENSURE *WEAPON SYSTEM PROGRAM COMPLIES WITH AIR FORCE POLICY FOR NO NEW MANAGEMENT INFORMATION SYSTEM DEVELOPMENT WITHOUT AF/CIO, THE OFFICE OF INFORMATION DOMINANCE AND CHIEF INFORMATION OFFICER, APPROVAL.*
This excludes Mission Critical Computer Resources (MCCR) and National Security Systems. Review the Enterprise Logistics Flight Plan (ELFP) to ensure processes align to current/future Air Force way of doing business – creation of an AV-1 which includes overview and summary information to include a program's vision, goals, objectives, plans, activities and effects. Reference AFI 33-401 and AFI 63-101/20-101 for more information.

3.8 ENSURE *SUPPORTABILITY IN THE PROGRAM MANAGEMENT/SERVICES MANAGEMENT AGREEMENTS (PMA/SMAS).*
Reference Appendix A, 2.16 Ensure Supportability Included in PMA/SMAs Checklist.

3.9 INITIATE SUSTAINMENT QUAD CHART TEMPLATE FOR PROGRAM EXECUTIVE OFFICER (PEO) REVIEWS.

The Portfolio Review is the culmination of a process that starts at the program level, continues through the PEO, and culminates in a presentation to SAF/AQ. The most detail will be provided at the PEO level, with summary data and significant issues only briefed to SAF/AQ. The Sustainment Quad chart provides a summary of sustainment/ product support planning activities to include: major players, transfer eligibility, operation and maintenance funding, overall sustainment element status, and issues. Review the Enterprise Logistics Flight Plan (ELFP) to ensure processes align to current/future Air Force way of doing business – creation of Architecture View 1 document may be required. See DoD Product Support Managers (PSM) Guidebook, Fig 5, page 25 for Sustainment Quad Chart and usage Instructions.

3.10 PARTICIPATE IN OPERATIONAL SITE REVIEWS.
Operational site reviews are conducted for any or all of the following purposes: (1) To determine the feasibility of a location for planned operations, (2) To validate information about the 12 Product Support Elements listed in DoD IPS Element Guidebook, terrain, host nation resources, infrastructure, personnel, compatibility, Operational environmental considerations, Energy Efficiency, Environment, Safety, and Occupational Health (ESOH), Noise (ambient and occupational), Alternate Fuels considerations, habitability, survivability (personnel and equipment), force protection etc. (list not all inclusive), (3) To gather critical information for future operations and facilitate planning for the eventual use of a location, and (4) To gather critical information for future Manpower and Personnel requirements (Manpower Estimating Requirements (MER)). Ensure Intelligence and program protection requirements are considered. Reference Appendix A, 3.10 Facilities Concept Checklist and 3.10.1 Determine Manpower and Personnel Requirements Checklist.

3.10.1 INITIATE MANPOWER AND PERSONNEL REQUIREMENTS.
The logistician must ensure that manpower and personnel considerations are appropriately documented for all program, sustainment and operational locations through contact with MAJCOMs and potential Product Support Providers. Additionally, gaining Base(s) Civil Engineers and Communication and Information Systems Officer (CSO) support for communication infrastructure, as well as other appropriate agencies (i.e. hospital) should be considered. Reference Appendix A, 3.10.1 Determine Manpower and Personnel Requirements Checklist.

3.11 DEFINE AND IMPLEMENT MILITARY CONSTRUCTION (MILCON) AND SUSTAINMENT RESTORATION MODERNIZATION (SRM) REQUIREMENTS.
Based upon facility requirements. Reference Appendix A, 3.11 Define and Implement MILCON Requirements Checklist.

3.12 INCLUDE SUPPORTABILITY IN DEFENSE CONTRACT MANAGEMENT AGENCY (DCMA) MEMORANDUM OF AGREEMENT (MOA).

MOA is similar in concept to PMA/SMA; reference Appendix A, 2.16 Ensure Supportability Included in PMA/SMAs Checklist.

3.13 REVIEW THE INTEGRATED MASTER PLAN / INTEGRATED MASTER SCHEDULE (IMP/IMS).

Reference Appendix A, 2.23 Include Product Support Activities in the IMP/IMS Checklist.

3.14 PARTICIPATE IN RISK MANAGEMENT.

A risk management approach for use in the acquisition of new systems, end-items, and equipment based upon four attributes: risk management planning, risk assessment, risk mitigation, and risk management control. When properly implemented, an effective risk management program facilitates identification of areas that require special attention and sets realistic, executable technical, schedule, and cost objectives. Risk Management is applicable to all phases and aspects of any acquisition or modernization program. The logistician needs to continue to participate on the risk management team to ensure identification of any risk relative to the product support element, systems engineering and life cycle support costs, schedule and technical performance. The appropriate reference is AFI 63-101/20-101, para 3.10.6 PS Risk Mgmt. Product Support risks need to be addressed and documented within each CCTD. These risk assessments must address adverse impacts on warfighters capabilities to operate, maintain and support the system in an effective and safe manner. Consideration must also be given to reclamation, demilitarization and disposal. Reference AFPAM 63-128 *Integrated Life Cycle Management* Chapter 12 and Appendix A 2.22 Participate in Integrated Baseline Review (IBR) Checklist.

3.15 PARTICIPATE IN CONTRACT OVERSIGHT AND REVIEW.

The logistician should be actively involved in contract management. This includes reviewing Data Item Deliverables (DIDs), schedules, contract changes, cost, and performance.

3.16 ADVOCATE THE PROPOSED LOGISTICS ENGINEERING DESIGN CHANGES AND TRADE STUDIES (NON-DEVELOPMENT ITEM (NDI)), CORROSION, HAZARDOUS MATERIAL, PRECIOUS METALS, AND BERRY AMENDMENT (TITLE 10 U.S.C. 2533A IN SECTION 832).

Trade studies are iterative studies performed to evaluate and validate concepts representing new technologies, design alternatives, design simplification, logistics alternatives and compatibility with the production process. The logistician needs to be included to ensure product support is addressed in proposed design changes and trade studies and documented.   The logistician must consider the life cycle support implications of System Design that affect the 12 Product Support Elements

listed in DoD Integrated Product Support (IPS) Elements Guidebook, to include Diminishing Manufacturing Sources and Material Shortages (DMSMS), and hazardous material.

3.16.1 PARTICIPATE IN / VERIFY ENGINEERING DESIGN CHANGES AND TRADE STUDIES TO ENSURE THEY CAPTURE LOWEST TOTAL COST OF OWNERSHIP WHILE ACHIEVING REQUIRED PERFORMANCE.

3.16.2 PARTICIPATE IN / VERIFY ENGINEERING DESIGN CHANGES AND TRADE STUDIES CONSIDER PRODUCTION AND OPERATIONAL SUPPORT AS PART OF THE STUDY.

3.16.3 PARTICIPATE IN / VERIFY ENGINEERING DESIGN CHANGES AND TRADE STUDIES INCLUDE SENSITIVITY ANALYSES OF KEY PERFORMANCE AND SUPPORT PARAMETERS.

3.16.4 PARTICIPATE IN / VERIFY ENGINEERING DESIGN CHANGES AND TRADE STUDIES ARE CONDUCTED ON A CONTINUOUS BASIS TO ENSURE PERFORMANCE AND SUPPORTABILITY GOALS ARE MET.

3.16.5 CONSIDER THE LIFE CYCLE IMPLICATIONS OF TECHNICAL ORDERS AND OTHER TECHNICAL DATA.

3.17 EVALUATE THE TECHNOLOGY DEMONSTRATION FOR SUPPORTABILITY. The demonstration evaluation criteria will ensure product success during the demonstration of the products. There is no formal format to use for documenting the criteria.   The draft CDD includes data from key performance parameters, system threat assessment, and measures of effectiveness/performance; it will provide the basis for evaluation criteria. Ensure Reliability, Availability, Maintainability (RAM), Cost and System Life cycle Integrity Management (SLIM) requirements, Interoperability, Production, Item Unique Identification (IUID), Radio Frequency Identification (RFID), if applicable. System Accreditation, Life Cycle Support Cost Estimates, Budgeting, usability and / or accessibility, and the implications of the 12 Product Support Elements listed in DoD Integrated Product Support (IPS) Elements Guidebook, to include Diminishing Manufacturing Sources and Material Shortages (DMSMS) are considered in the evaluation and identified as KPPs in the CDD. Ensure Environment, Safety, and Occupational Health (ESOH) considerations are addressed during the technology demonstration.   Reference Appendix A, 2.9.1 Address Environment, Safety, and Occupational Health Checklist.

3.17.1 CONTACT AIR TRANSPORTABILITY TEST LOAD AGENCY (ATTLA) FOR AIR TRANSPORTABILITY REQUIREMENTS.   i.e., G-force, HAZMAT (ATTLA@wpafb.af.mil).

3.17.2 ADDRESS HUMAN SYSTEMS INTEGRATION (HSI) CONSIDERATIONS. Reference Appendix A, 2.13.1 Human Systems Integration (HSI) Checklist.

3.17.3 ADDRESS ENVIRONMENT, SAFETY, AND OCCUPATIONAL HEALTH (ESOH) CONSIDERATIONS.

Reference Appendix A, 2.9.1 Address Environment, Safety, and Occupational Health Checklist.

3.18 REFINE THE SUPPORTABILITY OBJECTIVES.

The Product Support Manager (PSM) will review and modify as necessary. Reference Appendix A, 3.18 Refine Supportability Objective Checklist and 2.3 Define Supportability Objectives Checklist.

3.18.1 CONSIDER APPLICATION OF MODELING, SIMULATION, AND ANALYSIS TOOLS.

Reference Appendix A, 1.6.1 Consider application of modeling, simulation and analysis tools Checklist.

3.18.2 REFINE SYSTEM LIFE CYCLE INTEGRITY MANAGEMENT (SLIM) REQUIREMENTS.

Reference Appendix A, 2.3.1 Implement SLIM Processes and Programs Checklist.

3.19 REVIEW THE TEST AND EVALUATION MASTER PLAN (TEMP) FOR SUPPORT CONSIDERATIONS.

The program's test strategy is a broader view of the risk reduction efforts across the range of test activities that will ultimately produce a valid evaluation of operational effectiveness, suitability, and survivability before full-rate production and deployment. The PSM should review the TEMP. Ensure product support capabilities and alternatives that include the 12 Product Support Elements listed in DoD Integrated Product Support (IPS) Elements Guidebook, Reliability, Availability, Maintainability (RAM), Cost and System Life cycle Integrity Management (SLIM) requirements, HSI, usability and / or accessibility, Intelligence, Interoperability, Production, Maintenance Planning, Item Unique Identification (IUID), Radio Frequency Identification (RFID), if applicable, Supply Support, System Accreditation, Life Cycle Support Cost Estimates, and Budgeting are addressed. Ensure resources are planned to support the logistics / supportability portions of the test.

3.20 PARTICIPATE IN THE SYSTEM ENGINEERING PLAN (SEP)UPDATE.

The purpose of the SEP is to document the systems engineering planning effort guiding all technical aspects of the program. The SEP provides the overarching plan for bringing the hardware, software, and human sub-systems into an integrated System. The SEP is developed early in the materiel solution analysis phase and updated prior to each subsequent Milestone. It should incorporate the planning that is consistent with Technology Readiness Assessment and successfully execute the Technical Maturation Risk Reduction Strategy. It should be a living document, tailored to the program and should serve as a roadmap to

support program management by defining comprehensive system engineering activities, addressing both government and contractor technical activities and responsibilities. Ensure HSI planning is documented in the SEP. Ensure Intelligence is integrated into systems engineering process, as applicable. Review the Enterprise Logistics Flight Plan (ELFP) to ensure processes align to current/future Air Force way of doing business – creation of System View document may be required. The logistician needs to be included on the team to ensure Reliability, Availability, Maintainability (RAM), Cost, System Life cycle Integrity Management (SLIM), and other product support factors are addressed during engineering analysis and documented in the plan. Item Unique Identification (IUID) implementation plan will be included in the SEP. See AFPAM 63-128, *Integrated Life Cycle Management*. Reference Appendix A, 2.13 SEP Checklist and 2.3.1 Implement SLIM Processes and Programs Checklist.

3.20.1 ADDRESS HUMAN SYSTEMS INTEGRATION (HSI) CONSIDERATIONS. Reference Appendix A, 2.13.1 Human Systems Integration (HSI) Checklist.

3.20.2 UPDATE AND COORDINATE ITEM UNIQUE IDENTIFICATION (IUID) IMPLEMENTATION PLAN.
The IUID Implementation plan must be updated for each milestone review. See AFPAM 63-128, *Integrated Life Cycle Management*. Reference Chapter 8 for guidance and attachment 3 for a template.

3.21 RESERVED

3.22 INCORPORATE SUPPORTABILITY REQUIREMENTS IN DRAFT CAPABILITY DEVELOPMENT DOCUMENT (CDD).
The CDD provides the operational performance attributes, including Key Performance Parameters (KPPs), necessary for the acquisition community to design a proposed system(s) and establish a program baseline. The CDD shall be updated or appended for each Milestone B decision and updated for Milestone C and addresses a single system-or-System of System only. Human Systems Integration (HSI), (see HSI Acquisition Phase Guide), provides an integrating process to address the human considerations in the CDD. The logistician should work to ensure OSD-mandated Key Performance Perameters/Key System Attributes (KPPs/KSAs) and metrics (SeeCJCSI 3170,01L), Reliability, Availability, Maintainability (RAM), Cost and System Life cycle Integrity Management (SLIM) requirements, Intelligence, Interoperability, Production, Maintenance Planning, Item Unique Identification (IUID), Radio Frequency Identification (RFID), if applicable, Diminishing Manufacturing Sources and Material Shortages (DMSMS), System Accreditation, Energy Efficiency, Environment, Safety, and Occupational Health (ESOH), Noise (ambient and occupational), Alternate Fuels

considerations, Life Cycle Support Cost Estimates, Budgeting, and the impact of the Product Support Elements referenced in DoD Integrated Product Support (IPS) Elements Guidebook, to include Calibration Issues are included as KPPs in the CDD (list not all inclusive). Reference Appendix A, 3.22 CDD Checklist.

3.23 DEVELOP SUPPORTABILITY KEY PERFORMANCE PARAMETERS.
Reference Appendix A, 3.23 Develop Supportability KPPs Checklist.

3.24 INCLUDE THE SUPPORTABILITY REQUIREMENTS IN THE SYSTEM PERFORMANCE SPECIFICATION.
Based upon the results of the verification of components, functionality, and system performance, a System Performance Specification should be created. Trade-offs of achievable performance should be complete and captured in the Systems Specification.   Critical and/or enabling technologies should have demonstrated adequate maturity (including Support Equipment) to achieve acceptable levels of risk. The System Performance Specification shall include requirements for Reliability, Availability, Maintainability (RAM), Cost and System Life cycle Integrity Management (SLIM), Intelligence, Interoperability, Production, HSI, Energy Efficiency, Environment, Safety, and Occupational Health (ESOH), Noise (ambient and occupational), Alternate Fuels consideration and Item Unique Identification (IUID) (list not all inclusive).   The System Performance Specification serves as the guiding technical requirement for the system development effort. Review the Enterprise Logistics Flight Plan (ELFP) to ensure processes align to current/future Air Force way of doing business.

3.24.1 ENSURE CONSIDERATION OF DESIGN INTERFACE FOR LIFE CYCLE LOGISTICS.
Reference Appendix A, 3.24.1 Design Interface Checklist and 2.13.1 Human Systems Integration (HSI) Checklist to support the design interfaces.

3.25 INCLUDE THE SUPPORTABILITY REQUIREMENTS IN THE COST ANALYSIS REQUIREMENTS DESCRIPTION (CARD), PROGRAM OFFICE ESTIMATE (POE), COMPONENT COST ANALYSIS (CCA), INDEPENDENT COST ESTIMATE (ICE), AND AFFORDABILITY ASSESSMENT.
Reference Appendix A, 3.25 Include Supportability Requirements in the CARD, POE, CCA, ICE, Affordability Assessment Checklist.

3.25.1 INCLUDE SUPPORT EQUIPMENT (SE) IN LIFE CYCLE COST DOCUMENTS INCLUDING REPLACEMENT COSTS.

3.26 INITIATE THE DEPOT SOURCE OF REPAIR (DSOR) PROCESS.
For new acquisitions, the DSOR is initiated pre-Milestone A, or the first applicable acquisition phase. The DSOR process is the method by which the DoD postures for depot level maintenance workloads – organic or

contract (regardless of the source of funds for maintenance or repair). It applies to workloads for hardware, software, new acquisitions, and fielded systems whether the Government or private contractor manages the system or subsystem. All weapon systems, end items, support equipment, and their components that require or are planned to require depot level maintenance require a DSOR determination prior to Milestone B per AFI 63-101/20-101, *Integrated Life Cycle Management* (MS C or DSOR need date for programs entering after MS B). For fielded systems, the process will be initiated as soon as a change in posture is considered. The PM must initiate DSOR planning early in the life cycle and document it in the LCSP. All programs will use the DSOR Automated Management System (DSOR II) except for Special Access Programs which use an off-line process.

The DSOR process is comprised of two phases involving several activities each tied to specific events in the acquisition life cycle. Phase I, Source of Repair Assignment (SORA), is when the Air Force determines Core determination and makes its depot maintenance Source of Repair (SOR) recommendation. Phase II, Depot Maintenance Inter-service (DMI) review, is where the DoD Services collaboratively determine the final SOR activity. Note: Funds shall not be committed to facilitate a specific site for depot maintenance prior to receiving the final DSOR decision. See AFI 63-101/20-101. Reference Appendix A, 2.24.2 Initiate the DSOR Process Checklist.

3.27 INCLUDE SUPPORTABILITY IN THE ACQUISITION PROGRAM BASELINE (APB).
Reference Appendix A, 3.27 Include Supportability in the APB Checklist.

3.28 INCLUDE SUPPORTABILITY REQUIREMENTS IN THE PROGRAM OBJECTIVE MEMORANDUM (POM) SUBMISSION.
The POM has two parts; "Pay" and "Non-Pay"; ensure Manpower requirements are included in the "Pay" portion of the POM. Reference Appendix A, 3.28 Include Supportability Requirements in POM submission Checklist, 3.10.1 Determine Manpower and Personnel Requirements Checklist and 3.11 Define and Implement MILCON Requirements Checklist.

3.29 REFINE THE PRODUCT SUPPORT STRATEGY IN THE LIFE-CYCLE SUSTAINMENT PLAN (LCSP) OR LIFE CYCLE MANAGEMENT PLAN (LCMP) (AS APPROVED BY THE MDA).
Utilize the Next Generation CLS Contract Sustainment Support Guide (CSSG) for proven best practices in developing product support strategies. Reference Appendix A, 3.29 Refine Product Support Strategy in the LCSP/LCMP Checklist. Ensure coordination with stakeholders. The logistician must identify the stakeholders that would be affected by

the planning effort (e.g., established platform modification programs that may be impacted). Stakeholders include, but are not limited to, supply chain management and depot maintenance in AFSC, acquisition within AFLCMC, AFRL, AFTC, and AFNWC. Relationships among these USAF organizations are critical to ensure consistency of data usage. Data is used for planning, budgeting, maintenance, and execution of the supply chain, depot operations and MAJCOM support.

3.29.1 REVIEW REQUIREMENT DOCUMENT / CAPABILITY DEVELOPMENT DOCUMENT (CDD).

3.29.1.1 REVIEW UNIQUE MUNITIONS ACQUISITION ACTIVITIES.
Reference Appendix A, 2.15.1.1 Unique Munitions Acquisition Activities Checklist.

3.29.2 REVIEW STRATEGIES FOR SIMILAR PRODUCTS / STRATEGIES.

3.29.3 REFINE ALTERNATIVE(S) FOR PRODUCT SUPPORT STRATEGY.

3.29.4 UPDATE RISK ASSESSMENT FOR ALTERNATIVE(S).

3.29.5 UPDATE COST ESTIMATE FOR ALTERNATIVE(S).
Ensure cost estimates actually look at the comparative personnel costs of the various alternatives. This should be expanded to correctly capture the Cost Analysis Requirements Description (CARD) or other similar document and ensure that the full costs are considered. The use of LCOM or similar data to run MPT analysis for various maintenance/support concepts can be very effective in driving the design rather than reacting to it.

3.29.6 APPROVE PRODUCT SUPPORT STRATEGY (ACQUISITION STRATEGY PANEL (ASP)).

3.29.7 UPDATE LCSP OR LIFE CYCLE MANAGEMENT PLAN (LCMP) (AS APPROVED BY THE MDA), BASED ON SYSTEM REQUIREMENTS REVIEW (SRR) AND ASP RECOMMENDATIONS.

3.30 ENSURE THAT SUPPORTABILITY IS INCLUDED IN THE PROGRAM MANAGEMENT / SERVICES MANAGEMENT AGREEMENTS (PMA/SMAs).
Reference Appendix A, 2.16 Ensure Supportability Included in PMA/SMAs Checklist.

3.31 ENSURE SUPPORTABILITY REQUIREMENTS ARE INCLUDED IN CAPABILITY DEVELOPMENT DOCUMENT (CDD).
The CDD provides the operational performance attributes, including Key Performance Parameters necessary for the acquisition community to design a proposed system(s) and establish a program baseline.
Reference Appendix A, 3.22 CDD Checklist.

3.32 INCLUDE SUPPORTABILITY IN THE SOURCE SELECTION PLAN (SSP).
Reference Appendix A, 2.17 Include Supportability in the SSP Checklist.

3.33 COMPLETE ACQUISITION STRATEGY PANEL (ASP) SUPPORTABILITY TEMPLATE.
The ASP briefing template provides an idea of the types of information SAF/AQ will expect to be addressed to include Human System Integration and Environment, Safety, and Occupational Health. The template can be adjusted as necessary to meet unique program information requirements. The product support strategy is part of the template to address sources of repair and supply, performance based logistics, and product support KPPs, etc. For guidance on ASPs see SAF/AQXC, Acquisition Excellence and Change Office.

3.34 PARTICIPATE IN THE ANALYSIS OF ALTERNATIVES (AOA) UPDATE.
Reference Appendix A, 1.7 Analysis of Alternatives Checklist.

3.35 PARTICIPATE IN THE SYSTEM REQUIREMENTS REVIEW (SRR) (DEMO CONCEPTS).
Reference Appendix A, 2.35 Participate in SRR Checklist (Demo Concepts).

3.36 REFINE SUPPORTABILITY REQUIREMENTS IN THE SYSTEM PERFORMANCE SPECIFICATION.

3.37 INCLUDE SUPPORTABILITY REQUIREMENTS IN THE REQUEST FOR PROPOSAL (RFP).
Reference Appendix A, 2.20 Include Supportability Requirements in RFP Checklist, 3.2.1 Establishing a TO Acquisition Program Checklist, 2.13.1 Human Systems Integration (HSI) Checklist and 3.37 PHS&T Checklist.

3.37.1 DEVELOP AND ACQUIRE SUPPORTABILITY DATA
Reference Appendix A, 3.37.1 Develop and Acquire Supportability Data Checklist.

3.37.2 ADDRESS AUTOMATED TEST SYSTEMS (ATS) ACQUISITION.
Reference Appendix A, 3.37.2 Address Automated Test Systems (ATS) Acquisition Checklist.

3.37.3 ADDRESS SUPPORT EQUIPMENT (SE) MANAGEMENT.
Reference Appendix A, 3.37.3 Address Support Equipment Management Checklist. During the acquisition of systems, logistics managers are expected to decrease the proliferation of Support Equipment (SE)(common and peculiar) into the inventory by minimizing the development of new SE/ATS and giving more attention to the use of existing government or commercial equipment. By including the SE/ATS Product Group Manager (PGM) in the SERD process for common and peculiar items regardless of support strategy, the PGM will ensure that DoD processes for SE and ATS selection are followed. The SE/ATS

PGMs will provide any applicable SE specific contract data requirements for incorporation when PMs are authorized to procure unique/peculiar SE. Reference Appendix A, 3.37.3 SE/ATS Management Checklist.

3.37.4 ADDRESS CALIBRATION SUPPORT FOR NEW ACQUISITIONS.
Reference Appendix A, 3.37.4 Calibration Support for new Acquisitions Checklist.

3.37.5 PROVIDE RECOMMENDED SUPPORT EQUIPMENT (SE) CONTRACT DATA REQUIREMENTS LIST (CDRL).

3.37.6 REVIEW SUPPORT EQUIPMENT RECOMMENDATION DATA (SERD).
Reference Appendix A, 3.37.6 Support Equipment Recommendation Data (SERD) Checklist.

3.37.7 DEVELOP A TECHNICAL ORDER DATA REQUEST FOR PROPOSAL (RFP) INCLUDING THE TECHNICAL MANUAL CONTRACT REQUIREMENTS (TMCR) DOCUMENT, TM-86-01.

3.37.8 DEVELOP TECHNICAL ORDER MANAGEMENT PLAN (TOMP).

3.37.9 INVOLVE GAINING PRODUCT SUPPORT PROVIDERS (PSP), USING COMMAND, AND SAFETY TO COMPLETE RFP FOR SUPPORTABILITY REQUIREMENTS.
One example that may be considered would be reliability and demand data for the organic supply chain provider to include commodities in requirements computations.

3.37.10 PERFORM SUPPORTABILITY ANALYSES TO ACHIEVE PERFORMANCE-BASED LOGISTICS (DODD 5000.01 E1.1.17) AND SYSTEM ENGINEERING ANALYSES WHICH WILL MINIMIZE TOTAL OWNERSHIP COSTS WHILE DELIVERING REQUIRED MISSION CAPABILITY.
Early consideration of HSI will assist in optimizing total system performance and minimizing total ownership cost. Reference Appendix A, 2.3.1 Implement SLIM Processes and Programs Checklist and 2.13.1 Human Systems Integration (HSI) Checklist.

3.37.11 PERFORMANCE-BASED LOGISTICS STRATEGY.
The PM shall identify operational capability oriented measurable product support requirements to be tracked during operations. These shall be the basis of measures of success for the product support integrator who shall be identified by organization at Milestone B. These shall be developed in a draft product support agreement which will be negotiated with the O&S Program Management/Services Management Agreement. The product support agreement shall be drafted in preparation for the Milestone B decision. Review the Enterprise Logistics Flight Plan (ELFP) to ensure processes align to current/future Air Force way of doing business – creation of Operational/System/Technical View document may be required.

3.37.12 IMPLEMENT SYSTEM LIFE CYCLE INTEGRITY MANAGEMENT (SLIM) PROCESSES AND PROGRAMS (I.E. WEAPON SYSTEM INTEGRITY PROGRAMS (WSIP), CONDITION BASED MAINTENANCE PLUS (CBM+), RELIABILITY CENTERED MAINTENANCE (RCM))

Reference Appendix A, 2.3.1 Implement SLIM Processes and Programs Checklist.

3.37.13 DEVELOP A DIMINISHING MANUFACTURING SOURCES AND MATERIAL SHORTAGES (DMSMS) PROGRAM.

Reference Appendix A, 3.37.13 Develop a DMSMS Program Checklist.

3.37.14 DEVELOP SUPPLY SUPPORT STRATEGY.

Reference Appendix A, 3.37.14 Develop Supply Support Strategy Checklist. Ensure inclusion in the Life Cycle Sustainment Plan (LCSP) OR LIFE CYCLE MANAGEMENT PLAN (LCMP)(AS APPROVED BY THE MDA).

3.37.15 ADDRESS THE NEED FOR CDRLS INCLUDING A FACILITIES REQUIREMENTS PLAN IN THE REQUEST FOR PROPOSAL (RFP)

Reference Appendix A, 3.37.15 CDRLs Checklist.

3.37.16 ADDRESS MAINTENANCE PLANNING.

3.38 INCLUDE DATA AND DATA RIGHTS IN THE REQUEST FOR PROPOSAL (RFP).

The Air Force should request all of the data and data rights entitled through contractual requirements or government funding of development of the part or system. The contractor will need to provide a matrix identifying all data rights that they assert. The burden of proof that the contractor is allowed to retain rights to data is now on the contractor per Title 10 USC 2320 and 10 USC 2321. The contractor may want to offer up rights they could otherwise retain to enhance their position during source selection. The actual rights received by the Air Force will result from negotiations. All ACAT I and ACAT II programs, regardless of planned product support approach shall assess the long-term technical data needs (including product definition, operations, maintenance, installation and training data) and reflect that assessment in the Intellectual Property (IP) Strategy (IPS). For the acquisition of engineering data, reference DoDI 5000.02 Enclosure 12. Also see Product Data Acquisition (PDAQ) Guidance on PDAQ web page https://www.my.af.mil/gcss-af/USAF/ep/globalTab.do?channelPageId=s2D8EB9D629AAD6C8012A 3858765B1825. Reference Appendix A, 2.20 Include Supportability Requirements in RFP Checklist. Also see DFARS 252.211-7007 and DFARS 252.211-7003 for GFP.

3.38.1 REVIEW BERRY AMENDMENT (TITLE 10 U.S.C. 2533A IN SECTION 832) FOR APPLICATION TO YOUR PROGRAM AND ENSURE COMPLIANCE IN ALL CONTRACTING ACTIONS.

3.38.2 INCLUDE CONTRACT OPTIONS FOR RADIO-FREQUENCY IDENTIFICATION (RFID) IN THE REQUEST FOR PROPOSAL (RFP).

RFID is an automatic identification method, relying on storing and remotely retrieving data using devices called RFID tags or transponders. A significant thrust in RFID use is in enterprise supply chain management, improving the efficiency of inventory tracking and management. Ensure provisions for RFID are considered for inclusion in the RFP. Also see DFARS 252.211-7007 and DFARS 252.211-7003 for GFP.

3.38.3 INCLUDE CONTRACT OPTIONS FOR ITEM UNIQUE IDENTIFICATION (IUID) IN THE REQUEST FOR PROPOSAL (RFP).

IUID is the set of data for tangible assets that is globally unique and unambiguous and ensures data integrity and data quality throughout the lifecycle, and supports multi-faceted business applications and users. Ensure provisions for IUID marking are included in the RFP to include marking of Support Equipment. IUID is integral to completion of program requirements for the Military Equipment Program Valuation (MEPV). Also see DFARS 252.211-7007 and DFARS 252.211-7003 for GFP.

3.38.4 DEFINE CONTRACTOR SUPPORTED WEAPON SYSTEM (CSWS) DATA REQUIREMENTS.

Reference Appendix A, 2.21.4 Define CSWS Data Requirements Checklist.

3.38.5 INCLUDE GOVERNMENT FURNISHED PROPERTY (GFP) IN REQUEST FOR PROPOSAL (RFP)

The logistician and their engineering counterpart(s) should include any known GFP in the RFP. Any property added to the RFP should be coordinated with the loan control officer (LCO) in AFSC to determine if property would potentially be available for loan to or requisitioned by the contractor. If GFP will be included, ensure the following mandatory clauses are included in the contract: FAR 52.245-9, DFARS 252.245-7001, DFARS 252.245-7002, DFARS 252.245-7003, DFARS 252.245-7004, and DFARS 252.211-7007. In addition, all property must be recorded in the appropriate GFP attachment and included in the contract (see dodprocurementtoolbox.com).

3.39 ACCOMPLISH SOURCE OF REPAIR ASSIGNMENT (SORA) PROCESS.

The SORA process is split into two parts. Phase 1 begins the entire DSOR process. It contains enough information in order to run a core analysis, and select the appropriate AF organic candidate depot(s). Phase 2 contains more detailed information in order to support recommendation and rationale determined in Phase 1. Phase 2 typically includes, but is not limited to repair hours, recurring cost, and facilities information. During Phase 2, an organic versus contract cost comparison may be accomplished.

Part 1 consists of the major areas needed to sufficiently identify and validate core determination analysis and organic candidate depot selection, to include, but not limited to, the following areas: System Capability, Functional Description of System/Sub-system, Final Application, Technology Assessment, Inventory, Cryptologic Description, Workload Description, Acquisition Category, Milestone Applicability, and Joint Service Program Information. Phase 1 is considered complete when the core determination analysis and candidate depot designations have been validated by HQ AFMC and a core/candidate depot memorandum is issued.

Part 2 consists of information used to compare possible SORs, to include, but not limited to, the following areas: Depot Facility Requirements, Depot Support Equipment Requirements, Depot Peacetime Repair Hours Recurring Repair Cost, System Expected/Planned Life, and Planned Modification Installation Schedule. Phase 2 is considered complete when the SORA is ready for coordination/signature. See AFI 63-101/20-101. Reference Appendix A, 2.24.2 Initiate the DSOR Process Checklist.

Note: Each AFMC Center will annually collect cost data for all contract and organic depot maintenance workloads to support 50/50 reporting. If programs enter at the Engineering and Manufacturing Development phase then a DSOR (SORA Process and DMI) still needs to be conducted.

3.40 INCLUDE LOGISTICS ACTIVITIES IN THE INTEGRATED MASTER PLAN/INTEGRATED MASTER SCHEDULE (IMP/IMS).
Reference Appendix A, 2.23 Include Product Support Activities in the IMP/IMS Checklist.

3.41 PARTICIPATE IN SOURCE SELECTION.
The Product Support Integrator (PSI) will identify membership requirements. If no PSI is assigned, this responsibility rests with the Program Manager.

3.42 AWARD ADDITIONAL TECHNICAL MATURATION RISK REDUCTION CONTRACT AS REQUIRED TO ACCOMPLISH TASKS NECESSARY TO PREPARE FOR PRELIMINARY DESIGN REVIEW (PDR).
Review the Enterprise Logistics Flight Plan (ELFP) to ensure processes align to current/future Air Force way of doing business – creation of System/Technical View document may be required.

3.42.1 ENSURE TECHNICAL MATURATION RISK REDUCTION PROGRAM COMPLIES WITH AIR FORCE POLICY FOR NO NEW SOFTWARE SYSTEM DEVELOPMENT WITHOUT AF/CIO, THE OFFICE OF INFORMATION DOMINANCE AND CHIEF INFORMATION OFFICER, APPROVAL.
This excludes Mission Critical Computer Resources (MCCR) and National Security Systems. Reference AFPD 33-1, *Cyberspace Support* and AFI 33-141, AF IT Portfolio Management and IT Investment Review Para 1.5.

Review the Enterprise Logistics Flight Plan (ELFP) to ensure processes align to current/future Air Force way of doing business – creation of Operational/System/Technical View document may be required.

3.43 ENSURE SUPPORTABILITY IS INCLUDED IN THE PROGRAM MANAGEMENT / SERVICES MANAGEMENT AGREEMENTS (PMA/SMAS).

Reference Appendix A, 2.16 Ensure Supportability Included in PMA/SMAs Checklist.

3.44 INCLUDE SUPPORTABILITY REQUIREMENTS IN DEFENSE CONTRACT MANAGEMENT AGENCY (DCMA) MEMORANDUM OF AGREEMENT (MOA). The MOA is similar in concept to PMA/SMA. Reference Appendix A,. 2.16 Ensure Supportability Included in PMA/SMAs Checklist.

3.45 REVIEW THE LOGISTICS ACTIVITIES IN THE INTEGRATED MASTER PLAN / INTEGRATED MASTER SCHEDULE (IMP/IMS).

Reference Appendix A, 2.23 Include Product Support Activities in the IMP/IMS Checklist.

3.46 PARTICIPATE IN RISK MANAGEMENT.

A risk management approach for use in the acquisition of new systems, end-items, and equipment based upon four attributes: risk management planning, risk assessment, risk mitigation, and risk management control. When properly implemented, an effective risk management program facilitates identification of areas that require special attention and sets realistic, executable technical, schedule, and cost objectives. Risk Management is applicable to all phases and aspects of any acquisition or modernization program. The logistician needs to continue to participate on the risk management team to ensure identification of any risk relative to the product support element, systems engineering and life cycle support costs, schedule and technical performance. The appropriate reference is AFI 63-101/20-101, para 3.10.6 PS Risk Mgmt. Product Support risks need to be addressed and documented within each CCTD. These risk assessments must address adverse impacts on warfighters capabilities to operate, maintain and support the system in an effective and safe manner. Consideration must also be given to reclamation, demilitarization and disposal. Reference AFPAM 63-128 *Integrated Life Cycle Management* Chapter 12 and Appendix A, 2.22 Participate in Integrated Baseline Review (IBR) Checklist.

3.47 PARTICIPATE IN CONTRACT OVERSIGHT AND REVIEW.

The logistician needs to participate in the Support Equipment Guidance Conference, understand the Deficiency Report (DR) process and participate in Configuration Control Boards (CCBs). The logistician should be actively involved in contract management. This includes reviewing Data Item Deliverables (DIDs), schedules, contract changes, cost, and performance.

3.47.1 ACCOMPLISH SUPPORT EQUIPMENT (SE) GUIDANCE CONFERENCE.
Reference Appendix A, 3.47.1 Accomplish SE Guidance Conference Checklist.

3.47.2 PARTICIPATE IN THE DEFICIENCY REPORT (DR) PROCESS.
A contractor's DR database system is not a substitute for entering DRs in the government system. Reference Appendix A, 3.47.2 Provide Logistics Support During the DR Process Checklist. Also, see TO 00-35D-54.

3.47.3 PARTICIPATE IN THE CONFIGURATION CONTROL BOARD (CCB).
See AFI 63-131, *Modification Management* and MIL-HDBK-61A (SE) *Configuration Management Guidance.* Reference Appendix A, 3.47.3 Participate in the CCB Checklist and 3.47.2 Provide Logistics Support During the DR Process Checklist.

3.47.4 ACCOMPLISH SPARES PROVISIONING GUIDANCE CONFERENCE.
Reference Appendix A, 3.47.4 Accomplish Spares Provisioning Guidance Conference Checklist.

3.47.5 ESTABLISH PERIODIC LOGISTICS PLANNING MEETINGS.
The purpose is to coordinate and plan logistics management to ensure supportability of developed and fielded systems with all stakeholders. Logistics management reviews may be done in conjunction with program reviews (e.g., Program Management Reviews (PMRs), Test Reviews, Configuration Reviews, System Requirements Review).

3.48 ADVOCATE THE PROPOSED LOGISTICS ENGINEERING DESIGN CHANGES AND TRADE STUDIES (NON-DEVELOPMENT ITEM (NDI)), CORROSION, HAZARDOUS MATERIAL, PRECIOUS METALS, and BERRY Amendment (TITLE 10 U.S.C. 2533A IN SECTION 832).
Trade studies are iterative studies performed to evaluate and validate concepts representing new technologies, design alternatives, design simplification, logistics alternatives and compatibility with the production process. The logistician needs to be included to ensure product support is addressed in proposed design changes and trade studies and is documented. Ensure Support Equipment life cycle consideration is included in design change/trade studies. The Systems Engineering Assessment Model (SEAM) can be utilized when considering all design changes and trade studies. Ensure logistics considerations are included in Development Planning and Early System Engineering analyses (e.g., within Concept Characterization and Technical Descriptions); consider application of modeling, simulation and analysis tools to produce robust logistics inputs. Reference Appendix A, 1.6.1 Consider application of modeling, simulation and analysis tools Checklist.

3.48.1 PARTICIPATE IN / VERIFY ENGINEERING DESIGN CHANGES AND TRADE STUDIES TO ENSURE THEY CAPTURE LOWEST TOTAL COST OF OWNERSHIP WHILE ACHIEVING REQUIRED PERFORMANCE.

3.48.2 PARTICIPATE *IN / VERIFY ENGINEERING DESIGN CHANGES AND TRADE STUDIES CONSIDER PRODUCTION AND OPERATIONAL SUPPORT AS PART OF THE STUDY.*

3.48.3 PARTICIPATE *IN / VERIFY ENGINEERING DESIGN CHANGES AND TRADE STUDIES INCLUDE SENSITIVITY ANALYSES OF KEY PERFORMANCE AND SUPPORT PARAMETERS.*

3.48.4 PARTICIPATE *IN / VERIFY ENGINEERING DESIGN CHANGES AND TRADE STUDIES ARE CONDUCTED ON A CONTINUOUS BASIS TO ENSURE PERFORMANCE AND SUPPORTABILITY GOALS ARE MET.*

3.48.5 CONTACT 403 *SUPPLY CHAIN MANAGEMENT SQUADRON (SCMS) FOR FEE-FOR-SERVICE PACKAGING SUPPORT (FOR DEVELOPMENT OF SPECIALIZED CONTAINERS FOR TESTING).*

3.48.6 CONSIDER *THE LIFE CYCLE IMPLICATIONS OF TECHNICAL ORDERS AND OTHER TECHNICAL DATA (DEVELOPING THE INITIAL TOMP AND/OR TMCR 86-01 TO SUPPORT THE RFP).*

3.48.7 UTILIZE AFLCMC/EZPAA *CONTAINER DESIGN RETRIEVAL SYSTEM (CDRS) MANAGEMENT OFFICE. IT MAINTAINS A COMPUTERIZED DATA RECORD OF EXISTING SPECIALIZED CONTAINERS, CORRESPONDING DESIGN DRAWINGS, AND INFORMATION. THESE ARE USED FOR TECHNICAL ANALYSIS AND CONTAINER REUSE APPLICATIONS, THUS REDUCING ACQUISITION COSTS AND INCREASING THE OPTIONS AVAILABLE TO THE PROCUREMENT ACTIVITY.*

3.49 UPDATE *PRODUCT SUPPORT (PS) STRATEGY IN LIFE-CYCLE SUSTAINMENT PLAN / LIFE CYLE MANAGEMENT PLAN(LCSP/LCMP) (AS APPROVED BY THE MDA).*
Review the Enterprise Logistics Flight Plan (ELFP) to ensure processes align to current/future Air Force way of doing business – creation of Operational/System/Technical View document may be required. Ensure coordination with stakeholders. Relationships among these USAF organizations are critical to ensure consistency of data usage. Data is used for planning, budgeting, maintenance, and execution of the supply chain, depot operations and MAJCOM support.
Reference Appendix A, 2.49 Update Product Support in LCSP/LCMP Checklist.

3.49.1 REVIEW *REQUIREMENT DOCUMENT / CAPABILITY DEVELOPMENT DOCUMENT (CDD).*

3.49.1.1 REVIEW *UNIQUE MUNITIONS ACQUISITION ACTIVITIES.*
Reference Appendix A, 2.15.1.1 Unique Munitions Acquisition Activities Checklist.

3.49.2 REVIEW *STRATEGIES FOR SIMILAR PRODUCTS/STRATEGIES.*

3.49.3 REFINE *ALTERNATIVE FOR PRODUCT SUPPORT STRATEGY.*

3.49.4 REVIEW RISK ASSESSMENT FOR ALTERNATIVE.

3.49.5 REVIEW COST ESTIMATE FOR ALTERNATIVE.
Review Cost Estimate for Alternative to ensure full costs are considered, the estimate is consistent with the CARD or similar document, and the estimate includes comparative personnel costs for the various alternatives. The use of LCOM or similar data to run MPT analysis for various maintenance/support concepts can be very effective in driving the design rather than reacting to it.

3.49.6 APPROVE PRODUCT SUPPORT STRATEGY (SYSTEM REQUIREMENTS REVIEW (SRR).

3.49.7 UPDATE LCSP OR LCMP (AS APPROVED BY THE MDA). LCMP BASED ON ACQUISITION STRATEGY PANEL (ASP) RECOMMENDATIONS.

3.50 EVALUATE CONTRACTOR DELIVERED DATA.
Review the Enterprise Logistics Flight Plan (ELFP) to ensure processes align to current/future Air Force way of doing business – creation of Operational/System/Technical View document may be required. Reference Appendix A, 3.50 Evaluate Contractor Delivered Data Checklist.

3.50.1 MANAGE TECHNICAL ORDER ACQUISITION PROGRAM.
Reference Appendix A, 3.50.1 Manage TO Acquisition Program Checklist.

3.50.1.1 CONDUCT TECHNICAL ORDER GUIDANCE CONFERENCE.

3.50.1.2 START TECHNICAL ORDER DEVELOPMENT.

3.50.1.3 CONDUCT TECHNICAL ORDER IN-PROCESS REVIEWS (IPRS).

3.50.1.4 REFINE TECHNICAL ORDER MANAGEMENT PLAN.

3.50.1.5 FINALIZE TECHNICAL ORDER LIFE CYCLE VERIFICATION PLAN (TOLCVP).

3.50.1.6 REVIEW PRE-PUBLICATIONS.

3.50.2 EVALUATE SUPPORT EQUIPMENT RECOMMENDATION DATA (SERD).
Includes Peculiar and Common Support Equipment, TOs, Spares, Training, and Calibration Requirements, Reference Appendix A, 3.37.2 Address ATS Acquisition Checklist, 3.37.4 Calibration Support for new Acquisitions Checklist, and 3.37.6 SERD Checklist. Regardless of sustainment strategy, common and peculiar SERDs must be processed through the SE/ATS PGM.

3.50.3 REVIEW SUPPORT EQUIPMENT RECOMMENDATION DATA (SERD) FOR DEPOT MAINTENANCE ACTIVATION WORKING GROUP (DMAWG).

3.50.4 ESTABLISH AND MANAGE TRAINING SYSTEMS.
Reference Appendix A, 3.50.4 Establish and Manage Training Systems Checklist.

3.51 IDENTIFY AND PLAN SUPPORTABILITY REQUIREMENTS FOR THE TEST AND EVALUATION MASTER PLAN (TEMP).
A logistician should participate in TEMP development to ensure the 12 Product Support Elements listed in DoD Integrated Product Support (IPS) Elements Guidebook are addressed in relationship to testing. Ensure Intelligence support concept and technologies are included. Reference Appendix A, 3.51 Identify and Plan Supportability Requirements for the TEMP Checklist.

3.52 PARTICIPATE IN THE SYSTEM ENGINEERING PLAN (SEP) UPDATE.
The purpose of the SEP is to document the systems engineering planning effort guiding all technical aspects of the program. The SEP provides the overarching plan for bringing the hardware, software, and human sub-systems into an integrated System. The SEP is developed early in the materiel solution analysis phase and updated prior to each subsequent Milestone. It should incorporate the planning that is consistent with Technology Readiness Assessment and successfully execute the Technical Maturation Risk Reduction. It should be a living document, tailored to the program and should serve as a roadmap to support program management by defining comprehensive system engineering activities, addressing both government and contractor technical activities and responsibilities. Ensure HSI planning is documented in the SEP. Ensure Intelligence is integrated into systems engineering process, as applicable. Review the Enterprise Logistics Flight Plan (ELFP) to ensure processes align to current/future Air Force way of doing business – creation of System View document may be required. The logistician needs to be included on the team to ensure Reliability, Availability, Maintainability (RAM), Cost, System Life cycle Integrity Management (SLIM), and the 12 Product Support Elements listed in DoD Integrated Product Support (IPS) Elements Guidebook, are addressed during engineering analysis and documented in the plan. Item Unique Identification (IUID) implementation plan will be included in the SEP. Ensure technical data requirements are addressed consistent with the Intellectual Property (IP) Strategy (IPS) in the Acquisition Strategy. See AFPAM 63-128, *Integrated Life Cycle Management*. Reference Appendix A, 2.13 SEP Checklist and 2.3.1 Implement SLIM Processes and Programs Checklist.

3.52.1 ADDRESS HUMAN SYSTEMS INTEGRATION (HSI) CONSIDERATIONS.
Reference Appendix A, 2.13.1 Human Systems Integration (HSI) Checklist.

3.53 REFINE THE SUPPORTABILITY REQUIREMENTS IN THE SYSTEM PERFORMANCE SPECIFICATION.

Review the Enterprise Logistics Flight Plan (ELFP) to ensure processes align to current/future Air Force way of doing business – creation of Operational/System/Technical View document may be required.

3.54 PARTICIPATE IN THE SYSTEM REQUIREMENTS REVIEW (SRR).

Reference Appendix A, 3.54 Participate in SRR Checklist (Systems Functional Specification) Checklist.

3.55 CONTINUE TO EVALUATE CONTRACTOR DELIVERED DATA.

Review the Enterprise Logistics Flight Plan (ELFP) to ensure processes align to current/future Air Force way of doing business – creation of Operational/System/Technical View document may be required. Reference Appendix A, 3.50 Evaluate Contractor Delivered Data Checklist and 3.50.1 Manage TO Acquisition Program Checklist and 3.50.4 Establish and Manage Training Systems Checklist.

3.56 SUPPORT INDEPENDENT LOGISTICS ASSESSMENT (ILA) AND TAKE CORRECTIVE ACTION.

An ILA is an independent assessment used to determine the sufficiency of a program's overall product support planning and execution prior to acquisition milestones and major decisions. The ILA results shall be the basis for the program's Product Support planning and execution certification recommendation to the PEO in support of the acquisition Milestones B and C and the Full Rate Production (FRP) decisions. ILAs are mandatory for all Major Defense Acquisition Programs (MDAPs) in accordance with AFI 63-101/20-101. The DoD LA Guidebook is available for use by all programs. Programs should contact AFLCMC/LG, Logistics Directorate, for further information on the ILA process. Additional information can be found in the DoD LA Guidebook.

3.57 RESERVED

3.58 EVALUATE PROTOTYPE(S) FOR SUPPORTABILITY.

Logistician should review logistics data including Commercial Off-The-Shelf and Contractor Data Requirements List. Other data to review is level of repair analysis, maintenance task analysis, reliability centered maintenance, Energy Efficiency, HSI, Environment, Safety, and Occupational Health (ESOH), Noise (ambient and occupational), Alternate Fuels considerations, support equipment/automatic test systems, engineering data, provisioning, maintenance check flight, Reliability Prediction Data and progress toward meeting Product Support KPP/KSAs, etc. (list not all inclusive). Review the Enterprise Logistics Flight Plan (ELFP) to ensure processes align to current/future Air Force way of doing business – creation of Operational/System/Technical View document may be required. Reference Appendix A, 2.3.1 Implement SLIM Processes and Programs Checklist.

3.59 PARTICIPATE IN THE SYSTEM FUNCTIONAL REVIEW (SFR).

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Reference Appendix A, 3.58 Participate in SFR Checklist.

3.60 PARTICIPATE IN THE PRELIMINARY DESIGN REVIEW (PDR).
Reference Appendix A, 3.59 Participate in PDR Checklist.

3.61 CONTINUE EVALUATION OF CONTRACTOR DELIVERED DATA.
 Reference Appendix A, 3.50 Evaluate Contractor Delivered Data Checklist, 3.50.1 Manage TO Acquisition Program Checklist and 3.50.4 Establish and Manage Training Systems Checklist.

3.62 REVIEW COST ESTIMATE.
From a Supportability perspective to ensure the estimate is consistent with supportability requirements identified in the CARD. Reference Appendix A, 3.25 Include Supportability Requirements in the CARD, POE, CCA, ICE, Affordability Assessment Checklist.

3.62.1 DEVELOP PRODUCTION DOCUMENT FOR SUPPORT EQUIPMENT (SE) (USED FOR FORECASTING).

3.63 PREPARE DOCUMENTATION FOR MILESTONE DECISION AUTHORITY (MDA) REVIEW.
Per Title 10 USC 2366A, the MDA must provide a signed certification memorandum for record prior to Milestone B approval. Determine if this workload should be on the Acquisition Master List/Program Master List. Contact SAF/AQX for information. Per Title 10 USC 2437, a Replaced System Sustainment Plan must be developed. This plan is for the existing system that the system under development is intended to replace. Reference Appendix A, 3.62 Prepare Documentation for Milestone B Checklist.

Exit Criteria: Milestone B Decision Memorandum

ENGINEERING AND MANUFACTURING DEVELOPMENT (EMD)

Ensure tasks from the previous phase are addressed/accomplished prior to entering next acquisition phase. The purpose of the Engineering and Manufacturing Development (EMD) Phase is to develop a system; complete full system integration (technology risk reduction occurs during Technical Maturation Risk Reduction); develop an affordable and executable manufacturing process; ensure operational supportability with particular attention to minimizing the logistics footprint; implement human systems integration (HSI); design for Production; ensure affordability; protect Critical Program Information (CPI) by implementing appropriate techniques such as anti-tamper; and demonstrate system integration, interoperability, safety, and utility. The Capability Development Document (CDD), Acquisition Strategy, System Engineering Plan (SEP), and Test & Evaluation Master Plan (TEMP) shall guide this effort. Entrance into this phase depends on technology maturity (including software), approved requirements, and full funding. Unless some other factor is overriding in its impact, the maturity of the technology shall determine the path to be followed.

The independent planning of dedicated Initial Operational Test and Evaluation (IOT&E), as required by law, and Follow-on Operational Test and Evaluation (FOT&E), if required, shall be the responsibility of the appropriate operational test agency (OTA). A Director, Operational Test and Evaluation (DOT&E)-approved Live-Fire Test and Evaluation (LFT&E) strategy shall guide LFT&E activity. The formal requirements process should address product support. Following the Materiel Development Decision (MDD), the Milestone Decision Authority (MDA) may authorize entry into the acquisition management system at any point consistent with phase-specific entrance criteria and statutory requirements. **For programs that enter at Milestone B, ensure coverage of tasks in the previous chapters.**

ENGINEERING AND MANUFACTURING DEVELOPMENT

The purpose of the EMD Phase is to develop, build, and test a product to verify that all operational and derived requirements have been met, and to support production or deployment decisions. EMD completes all needed hardware and software detailed design; systemically retires any open risks; builds and tests prototypes or first articles to verify compliance with capability requirements; and prepares for production or deployment. It includes the establishment of the initial product baseline for all configuration items. The system design effort usually includes a standard series of design reviews prior to test article fabrication and/or software build or increment coding. Multiple design iterations may be necessary to converge on a final design for production. Joint Urgent Operational Need (JUON) and Quick Reaction Capability (QRC) each have a process which allows for concurrency and relief from some requirements; however, documentation with rationale is highly encouraged. The completion of this phase is dependent on a decision by the MDA to commit to the program at Milestone C or a decision to end this effort.

Integrated Life Cycle Framework

EMD Figure 1
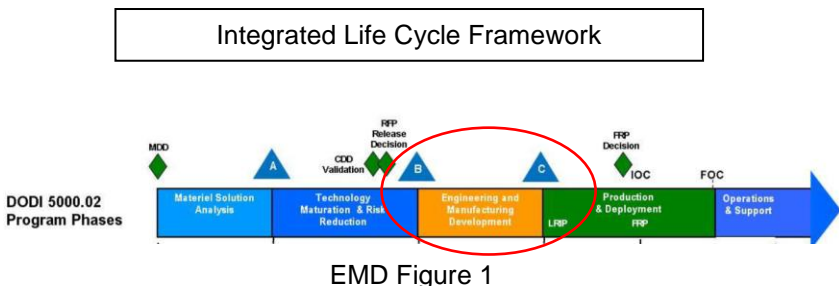
TASK DESCRIPTION

4.0 STAND UP THE PROGRAM OFFICE WITH A PRODUCT SUPPORT MANAGER (PSM) AND LOGISTICS PERSONNEL.
Specifically assign a PSM, Technical Order Manager, and Support Equipment manager and coordinate with training organizations. Identify or source adequate Logistics personnel to manage the program product support activities. In addition to program office personnel, include appropriate Air Force Sustainment Center (AFSC) personnel support. Example - support/Air Logistics Complexes to include other services/agencies. Notify AFMC/A4F and AFSPC/A4/7R (for space) that an Air Force program office has been established to determine if input into Centralized Access for Data Exchange (CAFDEx) is required. Reference Appendix A, 5.8.1 Utilize Centralized Asset Management (CAM)/Centralized Access for Data Exchange (CAFDEx).

4.1 VERIFY A PRODUCT SUPPORT MANAGER (PSM) AND PRODUCT SUPPORT INTEGRATOR (PSI) HAVE BEEN IDENTIFIED.

IAW Public Law, DoD guidance and AFI 63-101/20-101 a Product Support Manager will be designated with the proper credentials for Acquisition Category (ACAT) I and II programs in the operation and sustainment (O&S) phase and all ACAT III programs, the PM and PSM may be dual-hatted if approved by Air Force Materiel Command (AFMC)

4.2 PERFORM LOGISTICS HEALTH ASSESSMENT (LHA).

Although recommended for all acquisition programs, the Logistics Health Assessment (LHA) is required for all AFLCMC programs; all ACAT levels that are listed on the Acquisition Master List (AML), and is to be performed inside the Acquisition Workbench LHA module on a semi-annual basis in all phases of Life Cycle Management. Additionally, the LHA feeds the AFMC Weapon System Enterprise Review (WSER).

4.3 CONDUCT INTELLIGENCE INTEGRATION DURING ENGINEERING AND MANUFACTURING DEVELOPMENT (EMD).

Ensure the intelligence supportability elements are addressed. Ensure consideration of the Product Support elements as referenced in DoD Integrated Product Support (IPS) Elements Guidebook. Reference Appendix A, 1.1 Accomplish Intelligence Integration throughout the Life Cycle Checklist. Reference Appendix A, 2.13.1 Human Systems Integration (HSI) Checklist for unique HSI overlaps that may influence the intelligence integration.

4.4 CONDUCT POST-PRODUCT DESIGN REVIEW (PDR) ASSESSMENT.

If a PDR has not been conducted prior to milestone B (MS B), the PM shall plan for a PDR as soon as feasible after Program Initiation. The MDA will consider the results of the PDR and the PM's assessment, and determine whether remedial action is necessary to achieve Acquisition Program Baseline (APB) objectives. The results of the MDAs Post-PDR Assessment shall be documented in an Acquisition Decision Memorandum (ADM). Reference DoDI 5000.02, Enclosure 2. Reference Appendix A, 3.59 Participate in PDR Checklist and 2.9.1 Address Environment, Safety, and Occupational Health Checklist.

4.5 COMPLETE THE SUSTAINMENT QUAD CHART TEMPLATE FOR ALL PROGRAM EXECUTIVE OFFICER (PEO) REVIEWS.

The Portfolio Review is the culmination of a process that starts at the program level, continues through the PEO, and culminates in a presentation to SAF/AQ. The most detail will be provided at the PEO level, with summary data and significant issues only briefed to SAF/AQ. The Sustainment Quad chart provides a summary of sustainment/ product support planning activities to include: major players, transfer eligibility, operations and maintenance funding, overall sustainment element status, and issues. See DoD Product Support Managers (PSM) Guidebook, Fig 5, page 25 for Sustainment Quad Chart and usage Instructions.

4.6 ENSURE SUPPORTABILITY IS INCLUDED IN PROGRAM MANAGEMENT / SERVICES MANAGEMENT AGREEMENTS (PMA/SMAs). Reference Appendix A, 2.16 Ensure Supportability Included in PMA/SMAs Checklist.

4.7 COMPLETE DEPOT SOURCE OF REPAIR (DSOR) PROCESS AND DEPOT MAINTENANCE INTERSERVICING (DMI).
If programs enter at the Engineering and Manufacturing Development phase (or later phase) then a DSOR still needs to be completed. The DSOR process consists of two phases, the Source of Repair Analysis (SORA) Process, and DMI coordination. DSOR is the method by which depot maintenance posturing decisions for both hardware and software are made. It applies to both new acquisition and fielded programs. SORA (DSOR phase I) is to determine Core determination (including workload projections) and AF repair depot candidate recommendation. DMI (DSOR phase II) is to determine if final repair depot determination (e.g. utilize an existing DoD depot repair capability, establish a DoD depot repair capability (Army, Navy, or Marines) or use contract repair). Joint Service reviews are used to evaluate DoD strategic interest, maximize the use of existing capability/capacity, and maximize the application of resource efficiency. Existing DoD depot-level maintenance/repair capabilities and workload assignments to existing sites are considered during the DMI review process. All weapon systems, end items, and their components that require, or are planned for depot level maintenance, require a DSOR analysis be completed per AFI 63-101/20-101. Funds shall not be committed to facilitate a specific site for depot maintenance prior to the finalized DSOR decision. For systems that are entering the Air Force that have already had a DMI study done (other DoD services) then a DMI does not need to be re-accomplished. Verify with HQ AFMC/A4FD if a DMI study has been done. Reference Appendix A, 2.24.2 Initiate the DSOR Process Checklist.

4.7.1 ENSURE DETERMINATION OF CORE DETERMINATION AND CANDIDATE DEPOT ASSIGNMENT.
If programs enter at the Engineering and Manufacturing Development phase (or later phase) then the DSOR process (SORA and DMI) still needs to be conducted. Phase I of the DSOR process (SORA) is to determine Core determination and the Air Force Candidate Depot Assignment as outlined in task 2.24.2. This Core determination is critical and is necessary for Title 10 (USC 2464) and legislative reporting compliance. Core is the organic depot capability required to assure mission support for weapon systems designated for fulfilling strategic and contingency plans. Specifically, Title10 USC 2464 states the DoD will retain a logistic repair capability of technical competencies and resources to meet national defense situations. Workloads are used to retain the repair capability on legacy and new and emerging technologies. Core is identified by tasked

system to meet Combatant Command (COCOM) requirements. Core workload must be performed in government owned facilities, with government owned equipment and repair capability performed by government people. The core determination analysis will be completed prior to Milestone A (per Title 10 USC 2366a) and the results of the analysis will be documented in the Core Logistics Analysis Annex to the LCSP. In addition the candidate depot is identified by the Air Logistics Complex repair capability and are identified as a CITE (Centers of Industrial and Technical Excellence). Once Core determination is made the SORA process determines the projected workload, and finally, the AF depot source of repair candidate recommendation (final decision is accomplished via DSOR Phase II, Depot Maintenance Inter-service coordination). Reference Appendix A, 2.24.2 Initiate the DSOR Process Checklist.

4.7.2 ACCOMPLISH SOURCE OF REPAIR ASSIGNMENT (SORA) PROCESS.
The SORA process is split into two parts. Phase 1 begins the entire DSOR process. It contains enough information in order to run a core analysis, and select the appropriate AF organic candidate depot(s). Phase 2 contains more detailed information in order to support recommendation and rationale determined in Phase 1. Phase 2 typically includes, but is not limited to repair hours, recurring cost, and facilities information. During Phase 2, an organic versus contract cost comparison may be accomplished.

Part 1 consists of the major areas needed to sufficiently identify and validate core determination analysis and organic candidate depot selection, to include, but not limited to, the following areas: System Capability, Functional Description of System/Sub-system, Final Application, Technology Assessment, Inventory, Cryptologic Description, Workload Description, Acquisition Category, Milestone Applicability, and Joint Service Program Information. Phase 1 is considered complete when the core determination analysis and candidate depot designations have been validated by HQ AFMC and a core/candidate depot memorandum is issued.

Part 2 consists of information used to compare possible SORs, to include, but not limited to, the following areas: Depot Facility Requirements, Depot Support Equipment Requirements, Depot Peacetime Repair Hours Recurring Repair Cost, System Expected/Planned Life, and Planned Modification Installation Schedule. Phase 2 is considered complete when the SORA is ready for coordination/signature. See AFI 63-101/20-101. Reference Appendix A, 2.24.2 Initiate the DSOR Process Checklist.

Note: Each AFMC Center will annually collect cost data for all contract and organic depot maintenance workloads to support 50/50 reporting. If programs enter at the Engineering and Manufacturing Development phase then a DSOR (SORA Process and DMI) still needs to be conducted.

4.8 INITIATE AN UPDATED PRODUCT SUPPORT BUSINESS CASE ANALYSIS (PS BCA).

The PM/PSM shall perform a product support BCA to validate the product support strategy is cost effective, financially feasible, and optimizes system readiness. The product support BCA is required for ACAT I, IA, and II programs but is at the discretion of the MDA for ACAT III programs. The PM/PSM shall document the strategy decision and rationale in the Life Cycle Sustainment Plan (LCSP) or Life Cycle Management Plan (LCMP) (as approved by the MDA). The PM/PSM shall maintain a complete history of BCAs over the course of the system life cycle to track decisions and understand how real-world operations cause program impacts. The PM/PSM revalidates the business case prior to any change in the product support strategy or every five years, whichever occurs first (per AFI 63-101/20-101). The Product Support BCA must follow DoD Product Support BCA Guidebook. For major weapon systems this can take 1-2 years to complete. The PSM/Logistician will be actively leading this process. Reference Appendix A, 3.4.1 Product Support (PS) Business Case Analysis (BCA) Checklist.

4.9 RESERVED

4.10 RESERVED

4.11 ENSURE WEAPON SYSTEM SUPPORT PROGRAM (WSSP) ACCOMPLISHED – WEAPON SYSTEM DESIGNATOR CODE (WSDC).

Reference Appendix A, 4.11 WSSP Checklist and 6.12 DLA Interface Checklist.

4.12 ENSURE FACILITY CONSTRUCTION IS ON TRACK.

The facilities acquisition cycle runs as a part of the acquisition life cycle. During Materiel Solution Analysis and Technical Maturation Risk Reduction: Review the users Initial Capability Document (ICD) and Capability Development Document (CDD) for any identified facility requirements Ensure the Logistics IPT is aware of the user's ICD or CDD requirements. Ensure industry is required to identify, as part of the contractual requirements, the anticipated facility requirements to support their respective designs. Detailed facility requirements will not be available at this early stage. During Engineering and Manufacturing Development: Ensure contractual requirements levy the need for detailed facility requirements data to be submitted. Confirm site surveys are being scheduled and conducted and facility project books are developed. Ensure National Environmental Policy Act (NEPA) actions have been initiated and are on schedule. Participate in the review of facility designs as they progress. During Production and Deployment: Monitor facility construction projects paying particular attention to adherence to the

construction schedule. Coordinate the availability for occupancy date of the facility with the delivery of resources for that facility; i.e., support equipment. During Operations and Support: As part of the program manager's periodic readiness assessment, ensure facilities are continuing to provide the capabilities needed for mission support. Reference Appendix A, 3.10 Facilities Concept Checklist, 3.10.2 Address NEPA Requirements Checklist and 3.11 Define and Implement MILCON Requirements Checklist.

4.13 ADDRESS NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) REQUIREMENTS.

To ensure compliance with the National Environmental Policy Act (NEPA) of 1969 (Title 42 USC 4321). NEPA requires federal agencies to consider the environmental impacts of their proposed action as part of an agency's overall planning and decision making. Federal agencies are required to cooperate with federal, state, and local governments and other concerned public and private organizations and citizens during their planning. NEPA ensures that the potential physical, biological, economic and social effects on the quality of the human environment are considered. Reference Appendix A, 3.10.2 Address NEPA Requirements Checklist.

4.14 CONTINUE TO EVALUATE CONTRACTOR DELIVERED DATA.

Reference Appendix A, 3.50 Evaluate Contractor Delivered Data Checklist.

4.15 ENSURE DATA TO SUPPORT SYSTEM LIFE CYCLE INTEGRITY MANAGEMENT (SLIM) REQUIREMENTS IS ADDRESSED.

Manage operational and maintenance data which records how the equipment is used and maintained and identify environmental conditions the system is exposed to during its life cycle. Collect data such as:

- How manufactured, employed/operated, maintained and modified
- Thermal, humidity and vibration environmental data

The purpose is to predict the Remaining Usable Life (RUL) of an installed component. Reference Appendix A, 2.3.1 Implement SLIM Processes and Programs Checklist and 4.15 SLIM Checklist.

4.16 PARTICIPATE THE CRITICAL DESIGN REVIEW (CDR).

Reference Appendix A, 3.12 Participate in the CDR Checklist.

4.17 ESTABLISH TECHNICAL ORDER PRODUCT BASELINE.

4.18 CONDUCT POST-CDR ASSESSMENT.

The MDA shall review the Post-CDR Report and the PM's resolution/mitigation plans and determine whether additional action is necessary to satisfy EMD Phase exit criteria and to achieve the program outcomes specified in the Acquisition Program Baseline (APB). The results of the MDA's Post-CDR Assessment shall be documented in an

ADM. Reference DoDI 5000.02, Enclosure 2. Reference Appendix A, 3.13 Prepare the Documentation for Post-CDR Assessment Checklist.

4.19 ANNOTATE THE PRODUCT SUPPORT CAPABILITIES.
The logistician must ensure product support capabilities are annotated in all plans and documents.

4.20 ENSURE DESIGNATION OF A PRODUCT SUPPORT MANAGER.
IAW Public Law, DoD guidance and AFI 63-101/20-101 a Product Support Manager will be designated with the proper credentials for all ACAT I, II, and III programs, including Pre-Major Defense Acquisition Programs (Pre-MDAP).

4.21 RESERVED

4.22 UPDATE SUPPORTABILITY REQUIREMENTS IN THE COST ANALYSIS REQUIREMENTS DESCRIPTION (CARD), PROGRAM OFFICE ESTIMATE (POE), COMPONENT COST ANALYSIS (CCA), INDEPENDENT COST ESTIMATE (ICE), AND AFFORDABILITY ASSESSMENT.
Reference Appendix A, 3.25 Include Supportability Requirements in the CARD, POE, CCA, ICE Affordability Assessment Checklist.

4.23 UPDATE SUPPORT EQUIPMENT (SE) IN LIFE CYCLE COST DOCUMENTS INCLUDING REPLACEMENT COST.

4.24 CONTINUE PROGRAM OBJECTIVE MEMORANDUM (POM) INPUTS FOR SUPPORTABILITY REQUIREMENTS.
Reference Appendix A, 3.28 Include supportability Requirements in POM Submission Checklist and 3.10.1 Determine Manpower and Personnel Requirements Checklist.

4.25 PARTICIPATE IN THE TEST READINESS REVIEW (TRR).
Reference Appendix A, 3.17 Participate in the TRR Checklist.

4.26 ENSURE SUPPORT FOR DEVELOPMENT TEST AND EVALUATION (DT&E), LOGISTICS SYSTEM TEST AND EVALUATION (LST&E), LIVE FIRE TEST AND EVALUATION (LFT&E), EARLY OPERATIONAL ASSESSMENTS (EOAS), AND OPERATIONAL ASSESSMENTS (OAS).
Logistics inputs should be included in development of the Test and Evaluation Master Plan (TEMP). Developmental and Operational testing is conducted throughout the entire life cycle to assist in engineering design and development, and to verify that critical technical parameters have been achieved. DT&E supports the acquisition of new materiel or operational capabilities before full-rate production or fielding decisions. LST&E consists of the test methodology, criteria and tools for evaluating and analyzing product support elements as they apply to a system under test. The objective is to identify non-compliant maintainability/supportability issues and influence the design as early as possible in the acquisition cycle. LFT&E is a type of DT&E that provides

timely, rigorous, and credible vulnerability or lethality tests and evaluations of "covered" systems as they progress through the Engineering and Manufacturing Development phase prior to full-rate production or major system modification that affects survivability. OAs are conducted in preparation for dedicated operational testing as described in the DoD 5000-series and typically support Milestone C or low-rate initial production (LRIP) decisions. They are progress reports and are not capable of rating a system effective or suitable. OAs provide early operational data and feedback derived from actual testing to developers, operators, and decision makers. Logisticians must ensure all Product Support KPP/KSAs and other important Product Support capabilities are included and test support personnel and other resources are identified to support the assessments. Ensure Interim Contractor Support (ICS) is comprehensive enough to cover OT&E. Intelligence professionals must be consulted to ensure threat assessment baselines are reviewed. Reference Appendix A, 1.1 Accomplish Intelligence Integration throughout the Life Cycle Checklist. Consider application of modeling, simulation and analysis tools. Reference Appendix A, 1.6.1 Consider application of modeling, simulation and analysis tools Checklist.

4.27 ANALYZE *data from Development Test and Evaluation (DT&E) Early Operational Assessments (EOAs), and Operational Assessments (OAs).*

4.28 UPDATE *Supportability in the Acquisition Program Baseline (APB).*
Reference Appendix A, 3.27 Include Supportability in the APB Checklist.

4.29 UPDATE *the Product Support Strategy in the LCSP or LCMP (as approved by the MDA).*
Address any logistics concerns for test in the T&E portion of the LCSP. Ensure coordination with stakeholders. The logistician must identify the stakeholders that would be affected by the planning effort (e.g., established platform modification programs that may be impacted). Stakeholders include, but are not limited, to supply chain management and depot maintenance in AFSC, acquisition within AFLCMC, AFRL, AFTC, and AFNWC. Relationships among these USAF organizations are critical to ensure consistency of data usage. Data is used for planning, budgeting, maintenance, and execution of the supply chain, depot operations and MAJCOM support. Ensure an updated and signed LCSP for Milestone C decision. Utilize the Next Generation CLS Contract Sustainment Support Guide (CSSG) for proven best practices in developing product support strategies. Reference Appendix A, 5.32 Update the Product Support Strategy in the LCSP Checklist.

4.30 REVIEW *Requirement Document/Capability Development Document (CDD).*

4.31 REVIEW UNIQUE MUNITIONS ACQUISITION ACTIVITIES.

Reference Appendix A, 2.15.1.1 Unique Munitions Acquisition Activities Checklist.

4.32 REVIEW STRATEGIES FOR SIMILAR PRODUCTS/STRATEGIES.

4.33 REFINE PRODUCT SUPPORT STRATEGY.

4.34 UPDATE RISK ASSESSMENT.

4.35 REVIEW COST ESTIMATE

Ensure the estimate is consistent with supportability requirements identified in the CARD. Ensure cost estimates actually look at the comparative personnel costs of the various alternatives. This should be expanded to correctly capture the CARD or other similar document and ensure that the full costs are considered. The use of LCOM or similar data to run MPT analysis for various maintenance / support concepts can be very effective in driving the design rather than reacting to it. Reference Appendix A, 3.25 Include Supportability Requirements in the CARD, POE, CCA, ICE, Affordability Assessment Checklist

4.36 ENSURE SUMMARY OF PROGRAMMATIC ENVIRONMENT, SAFETY, AND OCCUPATIONAL HEALTH EVALUATIONS (PESHE) IS INCLUDED IN LCSP / LCMP.

4.37 ENSURE PRODUCT SUPPORT STRATEGY IS REVIEWED FOR TEST READINESS REVIEW (TRR). REFER TO TASK CHECKLIST 3.17.

4.38 UPDATE LCSP / LCMP BASED ON ACQUISITION STRATEGY PANEL (ASP) RECOMMENDATIONS.

4.39 INCLUDE SUPPORTABILITY IN THE SOURCE SELECTION PLAN (SSP).

Reference Appendix A, 2.17 Include Supportability in the SSP Checklist.

4.40 COMPLETE ACQUISITION STRATEGY PANEL (ASP) SUPPORTABILITY TEMPLATE.

The ASP briefing template provides an idea of the types of information SAF/AQ, Assistant Secretary of the Air Force (Acquisition) will expect to be addressed to include Human System Integration and Environment, Safety, and Occupational Health. The template can be adjusted as necessary to meet unique program information requirements. The product support strategy is part of the template to address sources of repair and supply, performance based logistics, etc. Ensure Product Support related KPPs, Depot Planning Status, GFP requirements, Budgeting Status, Transition to Operational Management, Fielding Planning and the 12 Product Support Elements listed in DoD Integrated Product Support (IPS) Elements Guidebook are considered. Also ensure the Military Equipment Program Valuation (MEPV) is included for Milestone C and Full Rate Production decisions. The MEPV is not a part of the supportability template but will be addressed in ASP. For guidance on ASPs see

SAF/AQXC, Acquisition Excellence and Change Office. Service acquisition strategy templates are found on Acquisition Document Development and Management (ADDM).

4.41 PARTICIPATE IN THE ANALYSIS OF ALTERNATIVES (AOA) UPDATE.

Logistics SMEs should be included as participants in the AoA, as well as supporting any follow-on actions that update these analyses. Consider application of modeling, simulation and analysis tools. Reference Appendix A, 1.7 Analysis of Alternatives Checklist, 2.13.1 Human Systems Integration (HSI) Checklist and 1.6.1 Consider application of modeling, simulation and analysis tools Checklist.

4.42 INCLUDE SUPPORTABILITY REQUIREMENTS IN THE REQUEST FOR PROPOSAL (RFP).

Reference Appendix A, 2.20 Include Supportability Requirements in RFP Checklist and 3.50.1 Manage TO Acquisition Program Checklist and 3.37 PHS&T Checklist.

4.43 INCLUDE PACKAGING, HANDLING, STORAGE AND TRANSPORTATION (PHS&T) REQUIREMENTS IN THE RFP.

Prior to Milestone B, contact the AFLCMC PHS&T Office, AFLCMC/LZSA to review program documents to determine item(s) characteristics, fragility, and any packaging requirements for submittal in the development contract. The AFLCMC PHS&T Office shall complete and sign AFMC Form 158, *Packaging Requirements,* DD Form 1653, *Transportation Data For Solicitations* and other documentation if applicable.

4.44 RESERVED

4.45 DEVELOP A TECHNICAL ORDER DATA REQUEST FOR PROPOSAL (RFP) INCLUDING THE TECHNICAL MANUAL CONTRACT REQUIREMENTS (TMCR) DOCUMENT TM-86-01.

4.46 DEVELOP PRODUCT DATA REQUEST FOR PROPOSAL (RFP) INCLUDING THE CONTRACT DATA REQUIREMENTS LIST (CDRL) PER PRODUCT DATA ACQUISITION GUIDANCE (PDAQ).

4.47 INCLUDE DATA AND DATA RIGHTS IN THE REQUEST FOR PROPOSAL (RFP).

The Air Force should request all of the data and data rights entitled through contractual requirements or government funding of development of the part or system. The contractor will need to provide a matrix identifying all data rights that they assert. The burden of proof the contractor is allowed to retain rights to data is now on the contractor per Title 10 USC 2320 and 10 USC 2321. The contractor may want to offer up rights they could otherwise retain to enhance their position during source selection. The actual rights received by the Air Force will result from negotiations. All ACAT I and ACAT II programs, regardless of planned product support approach shall assess the long-term technical data needs (including

product definition, operations, maintenance, installation and training data) and reflect that assessment in the Intellectual Property (IP) Strategy (IPS). For the acquisition of engineering data, reference DoDI 5000.02 Enclosure 12. While not required by regulation, this strategy is also recommended for ACAT III programs. Also see Product Data Acquisition (PDAQ) Guidance on the PDAQ web page. Review the Enterprise Logistics Flight Plan (ELFP) to ensure processes align to current/future Air Force way of doing business – creation of Operational/System/Technical View document may be required. Reference Appendix A, 2.20 Include Supportability Requirements in RFP Checklist.

4.48 REVIEW BERRY AMENDMENT (TITLE 10 U.S.C. 2533A IN SECTION 832) FOR APPLICATION TO YOUR PROGRAM AND ENSURE COMPLIANCE IN ALL CONTRACTING ACTIONS.

4.49 INCLUDE CONTRACT OPTIONS FOR RADIO-FREQUENCY IDENTIFICATION (RFID) IN THE REQUEST FOR PROPOSAL (RFP).
RFID is an automatic identification method, relying on storing and remotely retrieving data using devices called RFID tags or transponders. A significant thrust in RFID use is in enterprise supply chain management, improving the efficiency of inventory tracking and management. Ensure that provisions for RFID are considered for inclusion in the RFP.

4.50 INCLUDE CONTRACT REQUIREMENTS FOR ITEM UNIQUE IDENTIFICATION (IUID) IN THE REQUEST FOR PROPOSAL (RFP).
IUID is the set of data for tangible assets that is globally unique and unambiguous and ensures data integrity and data quality throughout life, and supports multi-faceted business applications and users. Ensure that provisions for IUID marking are included in the RFP to include marking of Support Equipment. IUID is integral to completion of program requirements for the Military Equipment Program Valuation (MEPV).

4.51 DEFINE CONTRACTOR SUPPORTED WEAPON SYSTEM (CSWS) DATA REQUIREMENTS.
Reference Appendix A, 2.21.4 Define CSWS Data Requirements Checklist.

4.52 UPDATE THE SUPPORTABILITY INPUTS TO THE TEST AND EVALUATION MASTER PLAN (TEMP).
Reference Appendix A, 3.51 Identify and Plan Supportability Requirements for the TEMP Checklist.

4.53 UPDATE THE SUPPORTABILITY INPUTS TO THE SYSTEMS ENGINEERING PLAN (SEP).
The purpose of the SEP is to document the systems engineering planning effort guiding all technical aspects of the program. The SEP provides the overarching plan for bringing the hardware, software, and human sub-systems into an integrated System. It should be a living document, tailored to the program and should serve as a roadmap to support program

management by defining comprehensive system engineering activities, addressing both government and contractor technical activities and responsibilities. Ensure HSI planning is documented in the SEP. Ensure Intelligence is integrated into systems engineering process, as applicable. Review the Enterprise Logistics Flight Plan (ELFP) to ensure processes align to current/future Air Force way of doing business – creation of System View document may be required. The logistician needs to be included on the team to ensure Reliability, Availability, Maintainability (RAM), Cost, System Life cycle Integrity Management (SLIM), and the 12 Product Support Elements listed in DoD Integrated Product Support (IPS) Elements Guidebook, are addressed during engineering analysis and documented in the plan. Item Unique Identification (IUID) implementation plan will be included in the SEP. See AFPAM 63-128, *Integrated Life Cycle Management*. Reference Appendix A, 2.13 SEP Checklist, 4.15 SLIM Checklist and 1.1 Accomplish Intelligence Integration throughout the Life Cycle Checklist.

4.53.1 UPDATE AND COORDINATE ITEM UNIQUE IDENTIFICATION (IUID) IMPLEMENTATION PLAN.
The IUID Implementation plan must be updated for each milestone review. See AFPAM 63-128, *Integrated Life Cycle Management*. Reference Chapter 8 for guidance and attachment 3 for a template.

4.54 ADDRESS HUMAN SYSTEMS INTEGRATION (HSI) CONSIDERATIONS.
Reference Appendix A, 2.13.1 Human Systems Integration (HSI) Checklist.

4.55 PARTICIPATE IN RISK MANAGEMENT.
A risk management approach for use in the acquisition of new systems, end-items, and equipment based upon four attributes: risk management planning, risk assessment, risk mitigation, and risk management control. When properly implemented, an effective risk management program facilitates identification of areas that require special attention and sets realistic, executable technical, schedule, and cost objectives.   Risk Management is applicable to all phases and aspects of any acquisition or modernization program. The logistician needs to continue to participate on the risk management team to ensure identification of any risk relative to the product support element, systems engineering and life cycle support costs, schedule and technical performance. The appropriate reference is AFI 63-101/20-101, para 3.10.6 PS Risk Mgmt. Product Support risks need to be addressed and documented within each CCTD. These risk assessments must address adverse impacts on warfighters capabilities to operate, maintain and support the system in an effective and safe manner. Consideration must also be given to reclamation, demilitarization and disposal. Reference AFPAM 63-128 *Integrated Life Cycle Management* Chapter 12 and Appendix A, 2.22 Participate in Integrated Baseline Review (IBR) Checklist.

4.56 PROVIDE INFORMATION AS REQUIRED TO THE CONFIGURATION STEERING BOARD (CSB) FOR ACAT I AND IA PROGRAMS.
See DoDI 5000.02 Para 5. b. and CSB Template.

4.57 ENSURE SUPPORTABILITY REQUIREMENTS ARE IN THE CAPABILITY PRODUCTION DOCUMENT (CPD).
A CPD is a document prepared by the user, and refined from the Capability Development Document, to identify production attributes. Human Systems Integration (HSI), (see HSI Acquisition Phase Guide) provides an integrating process to address the human considerations in the CPD. The logistician should ensure OSD-mandated KPP/KSAs and metrics are included. See CJCSI 3170.01L. The logistician should work to ensure Reliability, Availability, Maintainability (RAM), Cost and System Life cycle Integrity Management (SLIM) requirements; Interoperability, Production, Item Unique Identification (IUID), Radio Frequency Identification (RFID) if applicable, System Accreditation, Life Cycle Support Cost Estimates and Budgeting are included as KPPs in the CPD. Ensure the Product Support Elements as referenced in DoD Integrated Product Support (IPS) Elements Guidebook, are specifically addressed. Ensure Energy Efficiency Environment, Safety, and Occupational Health (ESOH), Noise (ambient and occupational), and support for Alternative Fuels are addressed (list not all inclusive). Ensure intelligence concerns are addressed. The CPD supports the Milestone C decision. Reference Appendix A, 3.30 CPD Checklist.

4.58 UPDATE THE SUPPORTABILITY KEY PERFORMANCE PARAMETERS (KPPS).
Reference Appendix A, 3.23 Develop Supportability KPPs Checklist.

4.59 PARTICIPATE IN THE FUNCTIONAL CONFIGURATION AUDIT (FCA) AND MONITOR CORRECTIVE ACTIONS FOR SUPPORTABILITY PERFORMANCE REQUIREMENTS.
Reference Appendix A, 3.32 Participate in the FCA Checklist.

4.60 PARTICIPATE IN THE SYSTEM VERIFICATION REVIEW (SVR) AND PRODUCTION READINESS REVIEW (PRR).
Reference Appendix A, 3.33 Participate in the SVR and PRR Checklist.

4.61 INCLUDE LOGISTICS ACTIVITIES IN THE INTEGRATED MASTER PLAN/INTEGRATED SCHEDULE (IMP/IMS).
Reference Appendix A, 2.23 Include Product Support Activities in the IMP/IMS Checklist.

4.62 PARTICIPATE IN SOURCE SELECTION.

4.63 SUPPORT INDEPENDENT LOGISTICS ASSESSMENT (ILA) AND TAKE CORRECTIVE ACTION.
An ILA is an independent assessment to determine the sufficiency of a program's overall product support planning and implementation prior to

acquisition milestones and major decisions. The ILA results shall be the basis for the program's Product Support Planning and Implementation certification recommendation in support of the acquisition Milestones B and C and the Full Rate Production (FRP) decisions. The DoD LA Guidebook is available for use by all programs. Ensure compliance with the Enterprise Logistics Flight Plan (ELFP) as part of review.

4.64 PREPARE DOCUMENTATION REQUIRED FOR MILESTONE C.

Per Title 10 USC 2437, a Replaced System Sustainment Plan must be developed. This plan is for the existing system that the system under development is intended to replace. Determine if this workload should be on the Acquisition Master List. Contact SAF/AQX, Acquisition Integration Directorate, for information. Reference Appendix A, 4.64 Prepare documentation required for Milestone C Checklist.

4.65 ACCOMPLISH THE PROVISIONING CONFERENCE

See AFMCI 23-101 *Air Force Provisioning Instruction,* AFMCI 23-104 *Functions and Responsibilities of the Equipment Specialist during Provisioning* and Reference Appendix A, 4.65 Accomplish Spares Provisioning Conference Checklist.

Exit Criteria: Milestone C Decision Memorandum

Ensure tasks from previous phase are addressed/accomplished prior to entering next acquisition phase. The purpose of the Production and Deployment phase is to achieve an operational capability that satisfies mission needs. Operational test and evaluation shall determine the effectiveness and suitability of the system. The Milestone Decision Authority (MDA) shall make the decision to commit the Department of Defense to production at Milestone C and shall document the decision in an Acquisition Decision Memorandum (ADM). Milestone C authorizes entry into Low Rate Initial Production (LRIP) (for Major Defense Acquisition Programs (MDAPs) and major systems), into production or procurement (for non-major systems that do not require LRIP) or into limited deployment in support of operational testing for Major Automated Information System (MAIS) programs or software-intensive systems with no production components. Following the Materiel Development Decision (MDD), the MDA may authorize entry into the acquisition management system at any point consistent with phase-specific entrance criteria and statutory requirements. Joint Urgent Operational Need (JUON) and Quick Reaction Capability (QRC) each have a process which allows for concurrency and relief from some requirements, however, documentation with rationale is highly encouraged. For programs that enter at Milestone C, ensure coverage of tasks in the previous chapters.

Integrated Life Cycle Framework
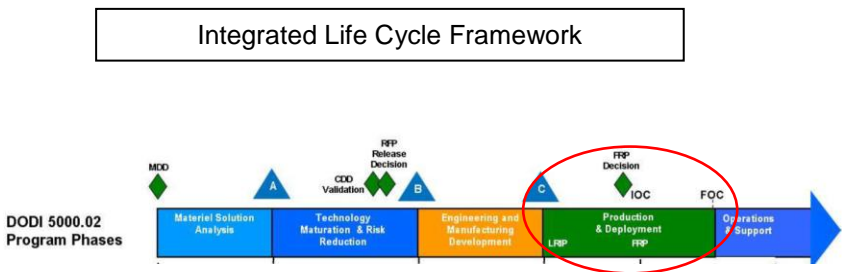
P&D Figure 1

TASK DESCRIPTION

5.1 DEVELOP INITIAL MIGRATION PLAN.
Reference: IAW AFI 63-101/20-101, the PM documents an assessment of when the initial AFI 16-402, *Aerospace Vehicle Programming, Assignment, Distribution, Accounting, and Termination, migration plan* is due. The migration plan shall then be documented and periodically reviewed. Generally, this would be when retirement of the system are

scheduled in the Future Years Defense Program (FYDP). The Migration Plan is developed by the Program Manager (PM) and identifies the current and programmed force structure throughout the FYDP, the current and programmed divestiture of all aerospace vehicles throughout the FYDP, (MDS changes, conversion to trainers, Aerospace Maintenance and Regeneration Group (AMARG) inductions, Foreign Military Sales (FMS), Security Assistance Program (SAP), transfers to other services or DoD agencies, and donations to the NMUSAF, etc.). Aerospace vehicles are: aircraft in Federal Supply Classification (FSC) 1510 and 1520, gliders in FSC 1540, remotely piloted vehicles and aerial target drones in FSC 1550, missiles in FSC 1410 and space systems (Boosters, Upper Stages, and Satellites). As aerospace vehicles are retired the Migration Plan is used to determine present and future requirements to support the remaining vehicles in the active inventory, and includes an inventory by tail number of AMARG stored aerospace vehicles detailing their current and programmed status throughout the FYDP.

5.2 AWARD LOW RATE INITIAL PRODUCTION (LRIP) CONTRACT.

5.2.1 ENSURE WEAPON SYSTEM PROGRAM COMPLIES WITH AIR FORCE POLICY FOR NO NEW SOFTWARE SYSTEM DEVELOPMENT WITHOUT AF/CIO APPROVAL.
This excludes Mission Critical Computer Resources (MCCR) and National Security Systems. Reference AFPD 33-1, *Cyberspace Support* and AFI 33-141 *AF IT Portfolio Management and IT Investment* Review Para 1.5. Review the Enterprise Logistics Flight Plan (ELFP) to ensure processes align to current/future Air Force way of doing business – creation of Operational/System/Technical View document may be required.

5.2.2 CONTACT THE AIR FORCE POC AT AFLCMC/EN, ENGINEERING DIRECTORATE, FOR SPECIAL CONSIDERATIONS REGARDING PRODUCTION ACCOMPLISHED AT GOVERNMENT-OWNED CONTRACTOR-OPERATED (GOCO) FACILITIES.

5.2.3 ENSURE DESIGNATION OF A PSM.
IAW Public Law, DoD guidance and AFI 63-101/20-101 a Product Support Manager will be designated with the proper credentials for Acquisition Category (ACAT) I and II programs in the operation and sustainment (O&S) phase and all ACAT III programs, the PM and PSM may be dual-hatted if approved by Air Force Materiel Command (AFMC) or Air Force Space Command (AFSPC) and the PEO.

5.2.4 PERFORM LOGISTICS HEALTH ASSESSMENT (LHA).
Although recommended for all acquisition programs, the Logistics Health Assessment (LHA) is required for all AFLCMC programs; all ACAT levels that are listed on the Acquisition Master List (AML), and is to be performed inside the Acquisition Workbench LHA module on a semi-annual basis in

all phases of Life Cycle Management. Additionally, the LHA feeds the AFMC Weapon System Enterprise Review (WSER).

5.3 INCLUDE *SUPPORTABILITY REQUIREMENTS IN DEFENSE CONTRACT MANAGEMENT AGENCY (DCMA) MEMORANDUM OF AGREEMENT (MOA).*

MOA is similar in concept to PMA/SMA; reference Appendix A, 2.16 Ensure Supportability Included in PMA/SMAs Checklist.

5.4 UPDATE *INTELLIGENCE INTEGRATION DURING PRODUCTION AND DEPLOYMENT.*

Ensure Intelligence supportability elements are addressed. Ensure consideration of the Product Support Elements as stated in DoD Integrated Product Support (IPS) Elements Guidebook, Reference Appendix A, 1.1 Accomplish Intelligence Integration throughout the Life Cycle Checklist. Consider HSI overlapping impacts as contained in 2.13.1 Human Systems Integration (HSI) Checklist.

5.5 PARTICIPATE *IN CONTRACT OVERSIGHT AND REVIEW.*

The logistician needs to participate in the Support Equipment Guidance Conference, understand the Deficiency Report (DR) process and participate in Configuration Control Boards (CCB). The   logistician should be actively involved in contract management. This includes reviewing Data Item Deliverables (DIDs), schedules, contract changes, cost, and performance.

5.5.1 ACCOMPLISH *ADDITIONAL SUPPORT EQUIPMENT (SE) GUIDANCE CONFERENCE AS REQUIRED.* Reference Appendix A, 3.47.1 Accomplish SE Guidance Conference Checklist.

5.5.2 PARTICIPATE *IN THE DEFICIENCY REPORT (DR) PROCESS.*

Reference Appendix A, 3.47.2 Provide Logistics Support During the DR Process Checklist.

5.5.3 PARTICIPATE *IN THE CONFIGURATION CONTROL BOARD (CCB).*

See AFI 63-131 *Modification Management* and MIL-HDBK-61A (SE) *Configuration Management Guidance*. Reference Appendix A, 3.47.3 Participate in the CCB Checklist.

5.5.4 RESERVED

5.6 COMPLETE *THE PROGRAM REALIGNMENT TEMPLATE AS REQUIRED FOR ALL PROGRAM EXECUTIVE OFFICER (PEO) REVIEWS.*

This template outlines a collaborative seamless, repeatable process that ensures a workload transition between geographical locations. The template can be adjusted as necessary to meet unique program information requirements. Reference Appendix A, 5.6 Program Realignment Checklist.

5.7 ENSURE *ADEQUATE RESOURCES ARE PLANNED FOR WORKLOAD REASSIGNMENTS. .*

Program realignment, to include transfer of program management responsibilities, is the process by which Air Force systems and acquisition programs are formally realigned between geographically separate locations. Management authorities and responsibilities execute through the PEO regardless of program location. The PEO shall thoroughly coordinate the transition requirements, activities, and time frames associated with realignment. The overall objective of this process is to ensure a seamless and transparent (to the user) transition of the system or program (per AFI 63-101/20-101). The PM, Product Support Manager (PSM) and Product Support Integrator (PSI) should collaborate on planning activities, including estimated milestones for management transfer. These planning activities should be included in the Life Cycle Sustainment Plan (LCSP) or Life Cycle Management Plan (LCMP) (as approved by the MDA) as early as possible to allow stakeholder resources (manpower and other infrastructure) lead time to be programmed and put in place in time to accommodate the transfer. Identify any supportability/logistics requirements for any follow-on (post-production) testing required. Ensure timely input of operational and maintenance funding requirements into Centralized Access for Data Exchange (CAFDEx). Reference Appendix A, 5.6 Program Realignment Checklist and 5.8.1 Utilize Centralized Asset Management (CAM) / Centralized Access for Data Exchange (CAFDEx).

5.8 ENSURE *SUPPORTABILITY IS INCLUDED IN PROGRAM MANAGEMENT / SERVICES MANAGEMENT AGREEMENTS (PMA/SMAS).*
Reference Appendix A, 2.16 Ensure Supportability Included in PMA/SMAs Checklist.

5.9 COMPLETE *SUSTAINMENT QUAD CHART TEMPLATE FOR PROGRAM EXECUTIVE OFFICER (PEO) REVIEWS.*
The Portfolio Review is the culmination of a process that starts at the program level, continues through the PEO, and culminates in a presentation to SAF/AQ. The most detail will be provided at the PEO level, with summary data and significant issues only briefed to SAF/AQ. The Sustainment Quad chart provides a summary of sustainment/ product support planning activities to include: major players, transfer eligibility, operations and maintenance funding, overall sustainment element status, and issues. See DoD Product Support Managers (PSM) Guidebook, Fig 5, page 25 for Sustainment Quad Chart and usage Instructions.

5.10 REVIEW *THE LOGISTICS ACTIVITIES IN THE INTEGRATED MASTER PLAN/INTEGRATED MASTER SCHEDULE (IMP/IMS).*
Reference Appendix A, 2.23 Include Product Support Activities in the IMP/IMS Checklist.

5.11 UPDATE *THE SUPPORTABILITY REQUIREMENTS IN THE COST ANALYSIS REQUIREMENTS DESCRIPTION (CARD), PROGRAM OFFICE ESTIMATE (POE),*

COMPONENT COST ANALYSIS (CCA), INDEPENDENT COST ESTIMATE (ICE), AND AFFORDABILITY ASSESSMENT.
Reference Appendix A, 3.25 Include Supportability Requirements in the CARD, POE, CCA, ICE, Affordability Assessment Checklist.

5.12 CONTINUE *TO EVALUATE CONTRACTOR DELIVERED DATA.*
Contractor Logistics Support (CLS) is a performance of maintenance and/or material management functions for a DoD system by a commercial activity. Review the Enterprise Logistics Flight Plan (ELFP) to ensure processes align to current/future Air Force way of doing business – creation of Operational/System/Technical View document may be required. Reference Appendix A, 3.50 Evaluate Contractor Delivered Data Checklist and 3.50.1 Manage TO Acquisition Program Checklist, and 3.50.4 Establish and Manage Training Systems Checklist.

5.12.1 CONTINUE *COLLECTING AND REFINING DATA TO SUPPORT SYSTEM LIFE CYCLE INTEGRITY MANAGEMENT (SLIM).*
Manage operational and maintenance data which records how the equipment is used and maintained and identify environmental conditions the system is exposed to during its life cycle. Collect data such as:
- How manufactured, employed/operated, maintained and modified
- Thermal, humidity and vibration environmental data

The purpose is to predict the Remaining Usable Life of an installed component. Reference Appendix A, 2.3.1 Implement SLIM Processes and Programs Checklist and 4.15 SLIM Checklist.

5.12.2 UPDATE *THE PRODUCT SUPPORT BUSINESS CASE ANALYSIS (PS BCA).*
The PM/PSM shall perform a product support BCA to validate the product support strategy is cost effective, financially feasible, and optimizes system readiness. The product support BCA is required for ACAT I, IA, and II programs but is at the discretion of the MDA for ACAT III programs. The PM/PSM shall document the strategy decision and rationale in the LCSP. The PM/PSM shall maintain a complete history of BCAs over the course of the system life cycle to track decisions and understand how real-world operations cause program impacts. The PM/PSM revalidates the business case prior to any change in the product support strategy or every 5 years, whichever occurs first (per AFI 63-101/20-101). The Product Support BCA must follow DoD Product Support BCA Guidebook. For major weapon systems this can take 1-2 years to complete. The PSM/Logistician will be actively leading this process.

5.13 ENSURE *CONTRACT/AGREEMENT FOR SUSTAINMENT (ORGANIC, COMMERCIAL AND PARTNERSHIPS*).
Specifically includes contractor logistics support**.** The PSM must ensure appropriate management and control activities are in place to accommodate and address Diminishing Manufacturing Sources and Material Shortages (DMSMS) issues. This could include requirements

input to Centralized Asset Management (CAM) / Centralized Access for Data Exchange (CAFDEx).   Reference Appendix A, 5.8.1 Utilize Centralized Asset Management (CAM)/Centralized Access for Data Exchange (CAFDEx). Review the Enterprise Logistics Flight Plan (ELFP) to ensure processes align to current/future Air Force way of doing business – creation of Operational/System/Technical View document may be required.

Organic Maintenance - Encompasses maintenance and other services performed at a Depot Maintenance Activity Group (DMAG) funded Air Force organic facility or other DoD organic facility. These organic facilities, shop equipment, support equipment, supplies, and spares are all owned by the government and all personnel are employed by the government. Reference AFMCMAN 20-1 *Maintenance Planning and Execution System*.

Contract Depot Level Maintenance-Depot level maintenance performed by a commercial organization under contract with Depot Maintenance Activity Group (DMAG).   Reference AFMCMAN 20-1 *Maintenance Planning and Execution System*.

Public-Private Partnerships for Depot Level Maintenance – Public-Private Partnerships are a logistics sustainment philosophy involving a cooperative agreement between DoD and private sector entities. The purpose of public-private partnerships is to leverage the optimal capabilities of both the public and private sectors in order to enhance depot support to the warfighter.   The Program Manager (PM) in collaboration with the Enterprise Repair Manager (ERM), candidate depots, lead and using commands, and other stakeholders will develop a depot maintenance strategy that addresses both the requirement to conduct organic repair and to pursue a public-private partnership approach where feasible.   Reference *Public-Private Partnerships for Depot-Level Maintenance and* AFI 63-101/20-101.

5.14 PARTICIPATE IN SITE ACTIVATION TASK FORCE (SATAF).
The SATAF is concerned with planning and activating each operational site and comprised of representatives from the using/operating command, the PM, PSM, PSI, AETC, and the contractor. The SATAF provides on-site assistance and surveillance to facilitate operational testing and training, and develops a logistics support capability to include site activation plans.   The senior logistician is normally delegated the responsibility to coordinate support planning for site activation. The tasks and milestones of site activation management will be detailed in Site Activation Plans and the support planning document. Ensure Intelligence and program protection requirements are considered.   Reference Appendix A, 5.14 Site Activation Task Force (SATAF) Checklist.

5.14.1 ESTABLISH SITE ACTIVATION TASK FORCE (SATAF) TEAM FOR EACH LOCATION.

5.14.2 PERFORM OPERATIONAL BASE SURVEY.
Ensure National Environmental Policy Act (NEPA) milestones are met and required documentation completed. Reference Appendix A, 3.10 Facilities Concept Checklist and 3.10.2 Address NEPA Requirements Checklist.

5.14.3 DEVELOP SCHEDULE AND ACTION ITEMS.

5.14.4 COMPLETE ACTION ITEMS AND MITIGATION PLAN.

5.14.5 EXECUTE SUPPORT PLAN.

5.14.6 ACCEPT ASSETS DELIVERY.

5.14.7 CONDUCT SITE ACTIVATION TASK FORCE (SATAF) OUTBRIEF.

5.15 ACQUIRE INITIAL SUPPLY SUPPORT.
Includes management actions, procedures, and techniques necessary to determine requirements to acquire, catalog, receive, store, transfer, issue, and dispose of spares, repair parts, and supplies. Allow for a 2 year POM cycle for transitioning workload to appropriate DoD Agencies. In layman's terms, this means having the right spares, repair parts, and supplies available, in the right quantities, at the right place, at the right time, at the right price. The process includes provisioning for initial support, as well as acquiring, distributing, and replenishing inventories. "Initial" refers to the attainment of the capability to effectively employ a weapon, item of equipment, or system of approved specific characteristics with the appropriate number, type, and mix of spares, repair parts, and supplies necessary to operate, maintain, and support the system. Obtain packaging and transportation data as required by contract at the provisioning conference. Consider application of modeling, simulation, and analysis tools. Use readiness-based sparing tools (reference AFMCMAN 23-1) for spares requirements determination to the greatest extent possible. Ensure hazardous materials authorizations are prepared and submitted to site/installation hazardous material management office. Reference Appendix A, 1.6.1 Consider application of modeling, simulation and analysis tools Checklist and 2.9.1 Address Environment, Safety, and Occupational Health Checklist.

Note: For contractor supported systems ensure coverage of this task. Reference Appendix A, 4.65 Accomplish Spares Provisioning Conference Checklist.

5.15.1 EXECUTE CONTRACT REQUIREMENTS.

5.15.2 MONITOR CONTRACTOR SPARES PROGRESS.

5.15.3 MONITOR CONTRACTOR DELIVERY.

5.15.4 MONITOR SPARES UTILIZATION.

5.15.5 ADDRESS DIMINISHING MANUFACTURING SOURCES AND MATERIAL SHORTAGES (DMSMS) ISSUES.

5.15.6 RESPOND TO DEFICIENCY REPORTS (DR).

5.15.7 RECEIVE SPARES.

5.15.8 ENSURE INFORMATION IS PROVIDED TO THE PRIME CENTER PACKAGING AND TRANSPORTATION OFFICE TO COMPLETE AFMC FORM 158 AND DD FORM 1653, TO SELECT THE APPROPRIATE FEDERAL ACQUISITION REGULATION (FAR) CLAUSES FOR TRANSPORTATION.

5.16 ACQUIRE INITIAL SUPPORT EQUIPMENT.
Includes acquiring equipment (mobile or fixed) required to support the operation and maintenance of a system. This includes ground handling and maintenance equipment, tools, metrology, and calibration equipment, and manual and automatic test equipment. During the acquisition of systems, logistics managers are expected to decrease the proliferation of peculiar support equipment into the inventory by minimizing the development of new support equipment/automatic test systems and giving more attention to the use of existing government or commercial equipment. "Initial" refers to the attainment of the capability to effectively employ a weapon, item of equipment, or system of approved specific characteristics with the appropriate number, type, and mix of Support Equipment necessary to operate, maintain, and support the system. Consider application of modeling, simulation and analysis tools. Reference Appendix A, 1.6.1 Consider application of modeling, simulation and analysis tools Checklist, 3.37.2 Address ATS Acquisition Checklist, 3.37.3 SE/ATS Management Checklist, 3.37.4 Calibration Support for new Acquisitions Checklist, and 3.37.6 SERD Checklist.

Note: For contractor supported systems ensure coverage of this task.

5.16.1 EXECUTE CONTRACT REQUIREMENTS.

5.16.2 MONITOR CONTRACTOR SUPPORT EQUIPMENT (SE) PROGRESS.

5.16.3 MONITOR CONTRACTOR DELIVERY.

5.16.4 RECEIVE SUPPORT EQUIPMENT (SE).

5.16.4.1 DEVELOP LIST FOR SUPPORT EQUIPMENT (SE).
Weapon System Specific.

5.16.4.2 SEND APPROVED SUPPORT EQUIPMENT RECOMMENDATION DATA (SERD) TO (PRIME PROVISIONING ACTIVITY).

5.16.4.3 ALLOWANCE MANAGERS DEVELOP ALLOWANCE SOURCE CODES.
The Allowance Source Code contains all stock numbers that are authorized.

5.16.4.4 LOAD *INTO AIR FORCE EQUIPMENT MANAGEMENT SYSTEM (AFEMS) AND PUBLISH ALLOWANCE STANDARD.*

5.16.5 MONITOR *SUPPORT EQUIPMENT (SE) UTILIZATION.*

5.16.6 ADDRESS *DIMINISHING MANUFACTURING SOURCES AND MATERIAL SHORTAGES (DMSMS) ISSUES.*

5.16.7 RESPOND *TO DEFICIENCY REPORTS (DRS).*

5.17 ACQUIRE *INITIAL TRAINING/TRAINING EQUIPMENT.*
Initial training encompasses the policy, processes, procedures, techniques, training devices, and equipment used to train civilian and military personnel to acquire, operate, and support a system. This includes individual and crew training, new equipment training, initial, formal, and on-the-job training. Though the greatest amount of training is accomplished just prior to the fielding of a system, it must be remembered in most programs, a large number of individuals must also be trained during system development to support the system test and evaluation program. "Initial" refers to the attainment of the capability to effectively employ a weapon, item of equipment, or system of approved specific characteristics with the appropriate number, type, and mix of trained personnel necessary to operate, maintain, and support the system.

Note: For contractor supported systems ensure coverage of this task.

5.17.1 EXECUTE *CONTRACT REQUIREMENTS.*

5.17.2 MONITOR *CONTRACTOR TRAINING MATERIAL / EQUIPMENT PROGRESS.*

5.17.3 MONITOR *CONTRACTOR DELIVERY.*

5.17.4 RECEIVE *TRAINING MATERIAL / EQUIPMENT.*

5.18 ACQUIRE *FORMAL TECHNICAL ORDERS.*
Reference Appendix A, 3.50.1 Manage TO Acquisition Program Checklist.

5.18.1 MONITOR *CONTRACTOR TECHNICAL ORDERS / MANUALS PROGRESS.*

5.18.2 RECEIVE *TECHNICAL ORDERS / MANUALS.*

5.18.3 VERIFY *TECHNICAL ORDERS.*
Verify hazards identified in Environment, Safety, and Occupational Health (ESOH) analysis have been translated to appropriate cautions, warnings and notes (to include hazardous material disposal requirements) in technical orders.

5.18.4 RESPOND *TO DEFICIENCIES.*

5.19 DELIVER *INITIAL SUPPLY SUPPORT.*
"Initial" refers to the attainment of the capability to effectively employ a weapon, item of equipment, or system of approved specific characteristics

with the appropriate number, type, and mix of spares, repair parts and supplies necessary to operate, maintain, and support the system. Ensure hazardous materials authorizations are prepared and submitted to site/installation hazardous material management office.

5.20 DELIVER INITIAL SUPPORT EQUIPMENT (SE).
"Initial" refers to the attainment of the capability to effectively employ a weapon, item of equipment, or system of approved specific characteristics with the appropriate number, type, and mix of SE necessary to operate, maintain, and support the system. Reference Appendix A, 3.37.3 Address SE/ATS Management Checklist.

5.21 DELIVER INITIAL TRAINING / TRAINING EQUIPMENT.
"Initial" refers to the attainment of the capability to effectively employ a weapon, item of equipment, or system of approved specific characteristics with the appropriate number, type, and mix of trained personnel necessary to operate, maintain, and support the system.

5.22 DELIVER FORMAL TECHNICAL ORDERS.
Reference Appendix A, 3.50.1 Manage TO Acquisition Program Checklist.

5.23 ENSURE FIRST ASSET AVAILABLE AND SUPPORTABLE

5.24 CONTINUE THE DEPOT MAINTENANCE ACTIVATION WORKING GROUP (DMAWG).
Depot Sustainment Planning occurs throughout the entire DMAWG process. If additional depot capability is required, it will be addressed through the DMAWG process. Ensure plans created by DMAWG are executed. The objective of the DMAWG is to ensure a required depot maintenance capability is set up in a timely and efficient manner to achieve government-controlled capabilities for the depot repair. The DMAWG is the forum for conducting depot source of repair planning and activation to ensure funding, contracting, and delivery of data is accomplished. If support concept is total Contractor Logistics Support (CLS), a DMAWG is not required; however a Contractor Depot Activation Plan is still required. If Depot activation stands up depot repair capability at another DoD Service ensure DMISA development is included in list of activation activities. Reference Appendix A, 3.6 Establish DMAWG Team Checklist.

5.24.1 CONTINUE PERIODIC LOGISTICS PLANNING MEETINGS.
The purpose is to continue to coordinate and plan logistics management to ensure supportability of developed and fielded systems with all stakeholders (sometimes called an Integrated Logistics Support Team). Logisticians should ensure they participate in other program reviews. (e.g., Program Management Reviews (PMR), Test Reviews, Configuration Reviews, System Requirements Review etc.).

5.25 CONTINUE PROGRAM OBJECTIVE MEMORANDUM (POM) INPUTS FOR SUPPORTABILITY REQUIREMENTS.
Reference Appendix A, 3.28 Include Supportability Requirements in POM Submission Checklist and 3.10.1 Determine Manpower and Personnel Requirements Checklist.

5.26 UPDATE SUPPORTABILITY IN THE ACQUISITION PROGRAM BASELINE (APB).
Reference Appendix A, 3.27 Include Supportability in the APB Checklist.

5.27 PARTICIPATE IN THE OPERATIONAL TEST READINESS REVIEW (OTRR).
Reference Appendix A, 5.27 Participate in OTRR Checklist.

5.28 ENSURE SUPPORT FOR INITIAL OPERATIONAL TEST AND EVALUATION (IOT&E) AND FULL UP LIVE FIRE TEST AND EVALUATION (LFT&E) OR NON-FULL UP, ALTERNATIVE LIVE FIRE TESTING.

5.29 PARTICIPATE IN THE INITIAL OPERATIONAL TEST AND EVALUATION (IOT&E).

5.30 ANALYZE DATA FROM THE INITIAL OPERATIONAL TEST AND EVALUATION (IOT&E) AND VALIDATE SUPPORTABILITY.

5.31 PARTICIPATE IN THE PHYSICAL CONFIGURATION AUDIT (PCA).
Reference Appendix A, 5.31 Participate in PCA Checklist.

5.32 UPDATE PRODUCT SUPPORT (PS) STRATEGY IN THE LIFE-CYCLE SUSTAINMENT PLAN (LCSP)OR LCMP.
Ensure coordination with stakeholders. The logistician must identify the stakeholders that would be affected by the planning effort (e.g., established platform modification programs that may be impacted). Stakeholders include, but are not limited, to supply chain management and depot maintenance in AFSC, acquisition within AFLCMC, AFRL, AFTC, and AFNWC. Relationships among these USAF organizations are critical to ensure consistency of data usage. Data is used for planning, budgeting, maintenance, and execution of the supply chain, depot operations and MAJCOM support. Utilize the Next Generation CLS Contract Sustainment Support Guide (CSSG) for proven best practices in developing product support strategies. Reference Appendix A, 5.32 Update the Product Support Strategy in the LCSP Checklist.

5.32.1 REVIEW REQUIREMENT DOCUMENT/CAPABILITY PRODUCTION DOCUMENT (CPD).

5.32.1.1 REVIEW UNIQUE MUNITIONS ACQUISITION ACTIVITIES.
Reference Appendix A, 2.15.1.1 Unique Munitions Acquisition Activities Checklist.

5.32.2 REVIEW STRATEGIES FOR SIMILAR PRODUCTS / STRATEGIES.

5.32.3 REFINE PRODUCT SUPPORT STRATEGY.

5.32.4 REVIEW RISK ASSESSMENT.

5.32.5 REVIEW COST ESTIMATE.

Review Cost Estimate to ensure full costs are considered, the estimate is consistent with the CARD or similar document, and the estimate includes comparative people costs for the various alternatives. The use of LCOM or similar data to run MPT analysis for various maintenance/support concepts can be very effective in driving the design rather than reacting to it. Ensure cost estimates actually look at the comparative personnel costs. This should be expanded to correctly capture the CARD or other similar document and ensure that the full costs are considered. The use of LCOM or similar data to run MPT analysis for various maintenance/support concepts can be very effective in driving the design rather than reacting to it.

5.32.6 APPROVE PRODUCT SUPPORT STRATEGY (OPERATIONAL TEST READINESS REVIEW (OTRR).

5.32.7 UPDATE LCSP OR LCMP BASED ON ACQUISITION STRATEGY PANEL (ASP) RECOMMENDATIONS.

5.33 ENSURE SUPPORTABILITY IS INCLUDED IN THE PROGRAM MANAGEMENT/SERVICES MANAGEMENT AGREEMENTS (PMA/SMAS).

Reference Appendix A, 2.16 Ensure Supportability Included in PMA/SMAs Checklist.

5.34 INCLUDE SUPPORTABILITY IN THE SOURCE SELECTION PLAN.

Reference Appendix A, 2.17 Include Supportability in the SSP Checklist.

5.35 COMPLETE ACQUISITION STRATEGY PLAN (ASP) SUPPORTABILITY TEMPLATE.

The ASP briefing template provides an idea of the types of information SAF/AQ, Assistant Secretary of the Air Force (Acquisition) will expect to be addressed to include Human System Integration and Environment, Safety, and Occupational Health. The template can be adjusted as necessary to meet unique program information requirements. The product support strategy is part of the template to address sources of repair and supply, performance based logistics, GFP requirements, Reliability, Availability, Maintainability (RAM), Cost, Maintenance Planning, Product Support KPP compliance and all Product Support requirements. Ensure the Military Equipment Program Valuation (MEPV) is included for Full Rate Production decisions. The MEPV is not a part of the supportability template but will be addressed in the ASP. For guidance on ASPs see SAF/AQXC, Acquisition Excellence and Change Office. Services acquisition strategy templates are found on Acquisition Document Development and Management (ADDM).

5.36 INCLUDE SUPPORTABILITY REQUIREMENTS IN THE REQUEST FOR PROPOSAL (RFP).

Review the Enterprise Logistics Flight Plan (ELFP) to ensure processes align to current/future Air Force way of doing business – creation of Operational/System/Technical View document may be required. Reference Appendix A, 2.20 Include Supportability Requirements in RFP Checklist and 3.50.1 Manage TO Acquisition Program Checklist and 3.37.13 Develop a DMSMS Program Checklist and 3.37 PHS&T Checklist.

5.37 INCLUDE DATA RIGHTS IN THE REQUEST FOR PROPOSAL (RFP).

The Air Force should request all of the data rights entitled through government funding of development of the part or system. The contractor will need to provide a matrix identifying all data rights they claim. The burden of proof that the contractor is allowed to retain rights to data is now on the contractor per Title 10 USC 2320 and 10 USC 2321. The contractor may want to offer up rights they could otherwise retain to enhance their position during source selection. The actual rights received by the Air Force will result from negotiations. All ACAT I and ACAT II programs, regardless of planned sustainment approach shall assess the long-term technical data needs (including product definition, operations, maintenance, installation, and training data) and reflect that assessment in a Intellectual Property (IP) Strategy (IPS). For the acquisition of engineering, data reference DoDI 5000.02 Enclosure 12. While not required by regulation, this strategy is also recommended for ACAT III programs. Also see Product Data Acquisition (PDAQ) Guidance on PDAQ web page. Review the Enterprise Logistics Flight Plan (ELFP) to ensure processes align to current/future Air Force way of doing business – creation of Operational/System/Technical View document may be required. Reference Appendix A, 2.20 Include Supportability Requirements in RFP Checklist.

5.37.1 REVIEW BERRY AMENDMENT (TITLE 10 U.S.C. 2533A IN SECTION 832) FOR APPLICATION TO YOUR PROGRAM AND ENSURE COMPLIANCE IN ALL CONTRACTING ACTIONS.

5.37.2 INCLUDE CONTRACT OPTIONS FOR RADIO-FREQUENCY IDENTIFICATION (RFID) IN THE REQUEST FOR PROPOSAL (RFP).

RFID is an automatic identification method, relying on storing and remotely retrieving data using devices called RFID tags or transponders. A significant thrust in RFID use is in enterprise supply chain management, improving the efficiency of inventory tracking and management. Ensure that provisions for RFID are considered for inclusion in the RFP.

5.37.3 INCLUDE CONTRACT REQUIREMENTS FOR ITEM UNIQUE IDENTIFICATION (IUID) IN THE REQUEST FOR PROPOSAL (RFP).

IUID is the set of data for tangible assets that is globally unique and unambiguous and ensures data integrity and data quality throughout life, and supports multi-faceted business applications and users. Ensure that

provisions for IUID marking are included in the RFP to include marking of Support Equipment. IUID is integral to completion of program requirements for the Military Equipment Program Valuation (MEPV).

5.37.4 DEFINE CONTRACTOR SUPPORTED WEAPON SYSTEM (CSWS) DATA REQUIREMENTS.
Reference Appendix A, 2.21.4 Define CSWS Data Requirements Checklist.

5.38 UPDATE SUPPORTABILITY INPUTS TO THE TEST AND EVALUATION MASTER PLAN (TEMP).
Reference Appendix A, 3.51 Identify and Plan Supportability Requirements for the TEMP Checklist.

5.39 UPDATE SUPPORTABILITY INPUTS TO THE SYSTEM ENGINEERING PLAN (SEP).
The purpose of the SEP is to document the systems engineering planning effort guiding all technical aspects of the program. The SEP provides the overarching plan for bringing the hardware, software, and human sub-systems into an integrated System. It should be a living document, tailored to the program and should serve as a roadmap to support program management by defining comprehensive system engineering activities, addressing both government and contractor technical activities and responsibilities. Ensure HSI planning is documented in the SEP. Ensure Intelligence is integrated into systems engineering process, as applicable. Review the Enterprise Logistics Flight Plan (ELFP) to ensure processes align to current/future Air Force way of doing business – creation of System View document may be required. The logistician needs to be included on the team to ensure Reliability, Availability, Maintainability (RAM), Cost, System Life cycle Integrity Management (SLIM), and the Product Support Elements as stated in DoD Integrated Product Support (IPS) Elements Guidebook, are addressed during engineering analysis and documented in the plan. Item Unique Identification (IUID) implementation plan will be included in the SEP. See AFPAM 63-128, *Integrated Life Cycle Management*. Reference Appendix A, 2.13 SEP Checklist, 4.15 SLIM Checklist and 1.1 Accomplish Intelligence Integration throughout the Life Cycle Checklist.

5.39.1 ADDRESS HUMAN SYSTEMS INTEGRATION (HSI) CONSIDERATIONS.
Reference Appendix A, 2.13.1 Human Systems Integration (HSI) Checklist.

5.39.2 REVIEW ITEM UNIQUE IDENTIFICATION (IUID) IMPLEMENTATION PLAN ANNUALLY.
The IUID Implementation plan must be updated for each milestone review. See AFPAM 63-128, *Integrated Life Cycle Management*. Reference Chapter 8 for guidance and attachment 3 for a template.

5.40 PARTICIPATE IN RISK MANAGEMENT.

A risk management approach for use in the acquisition of new systems, end-items, and equipment based upon four attributes: risk management planning, risk assessment, risk mitigation, and risk management control. When properly implemented, an effective risk management program facilitates identification of areas that require special attention and sets realistic, executable technical, schedule, and cost objectives. Risk Management is applicable to all phases and aspects of any acquisition or modernization program. The logistician needs to continue to participate on the risk management team to ensure identification of any risk relative to the product support element, systems engineering and life cycle support costs, schedule and technical performance. The appropriate reference is AFI 63-101/20-101, para 3.10.6 PS Risk Mgmt. Product Support risks need to be addressed and documented within each CCTD. These risk assessments must address adverse impacts on warfighters capabilities to operate, maintain and support the system in an effective and safe manner. Consideration must also be given to reclamation, demilitarization and disposal. Reference AFPAM 63-128 *Integrated Life Cycle Management* Chapter 12 and Appendix A, 2.22 Participate in Integrated Baseline Review (IBR) Checklist.

5.40.1 PROVIDE INFORMATION AS REQUIRED TO THE CONFIGURATION STEERING BOARD (CSB) FOR ACAT I AND IA PROGRAMS.

See DoDI 5000.02 and CSB Template

5.41 INCLUDE LOGISTICS ACTIVITIES IN THE INTEGRATED MASTER PLAN / INTEGRATED MASTER SCHEDULE (IMP/IMS).

Reference Appendix A, 2.23 Include Product Support Activities in the IMP/IMS Checklist.

5.41.1 ENSURE ORGANIC DEPOT REPAIR CAPABILITY INITIATED.

Organic depot repair capability should be established not later than 4 years after Initial Operational Capability (IOC). If Organic Depot repair is performed by another DoD Service ensure establishment of Depot Maintenance Inter-Service Support Agreement (DMISA) as repair capability is initiated.

5.42 PREPARE THE DOCUMENTATION FOR FULL RATE PRODUCTION (FRP).

Per Title 10 USC 2437, a Replaced System Sustainment Plan must be developed. This plan is for the existing system that the system under development is intended to replace. Reference Appendix A, 5.42 Prepare the Documentation for FRP Checklist.

5.42.1 PARTICIPATE IN FOREIGN MILITARY SALES (FMS) ACTIVITIES (IF APPLICABLE).

The Secretary of Defense establishes military requirements and implements programs to transfer defense articles and services to eligible foreign countries through the Foreign Military Sales (FMS) Program, which

is a part of Security Assistance. FMS cases require emphasis and special management attention to include logistics. Reference Appendix A, 5.42.1 Participate in FMS Activities Checklist.

5.43 UPDATE THE MIGRATION PLAN (CONTINUOUS).

5.44 PARTICIPATE IN SOURCE SELECTION.

Ensure tasks from previous phases are addressed/accomplished prior to entering next acquisition phase. The objective of Operation and Support phase is the execution of a support program that meets materiel readiness and operational support performance requirements, and sustains the system in the most cost-effective manner over its total life cycle. Planning for this phase shall begin prior to program initiation and shall be documented in the Life Cycle Sustainment Plan (LCSP). Operations and Support has two major efforts; Life-Cycle Sustainment and Disposal. Following the Materiel Development Decision (MDD), the MDA may authorize entry into the acquisition management system at any point consistent with phase-specific entrance criteria and statutory requirements. For programs that enter at later points in the life cycle management framework, ensure coverage of tasks in the previous chapters.

Integrated Life Cycle Framework
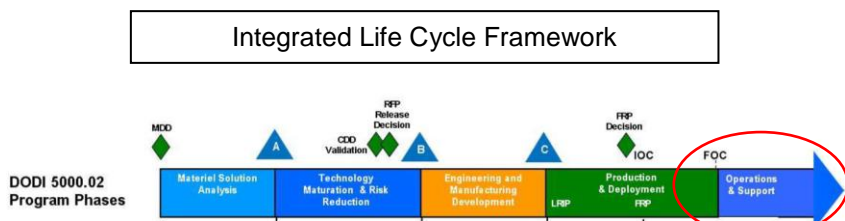
O&S Figure 1

TASK DESCRIPTION

6.1 AWARD PRODUCTION CONTRACT.

6.1.1 ENSURE WEAPON SYSTEM PROGRAM COMPLIES WITH AIR FORCE POLICY FOR NO NEW SOFTWARE SYSTEM DEVELOPMENT WITHOUT AF/CIO, THE OFFICE OF INFORMATION DOMINANCE AND CHIEF INFORMATION OFFICER, APPROVAL.
This excludes Mission Critical Computer Resources (MCCR) and National Security Systems. Reference AFPD 33-1, *Cyberspace Support* and AFI 33-141 *AF IT Portfolio Management and IT Investment Review* Para 1.5. Review the Enterprise Logistics Flight Plan (ELFP) to ensure processes align to current/future Air Force way of doing business – creation of Operational/System/Technical View document may be required.

6.1.2 CONTACT THE AIR FORCE POC AT AFLCMC/EN, ENGINEERING DIRECTORATE, FOR SPECIAL CONSIDERATIONS REGARDING PRODUCTION

ACCOMPLISHED AT GOVERNMENT-OWNED CONTRACTOR-OPERATED (GOCO) FACILITIES.

6.1.3 ENSURE DESIGNATION OF A PRODUCT SUPPORT MANAGER (PSM).

IAW Public Law, DoD guidance and AFI 63-101/20-101 a Product Support Manager will be designated with the proper credentials for Acquisition Category (ACAT) I and II programs in the operation and sustainment (O&S) phase and all ACAT III programs, the PM and PSM may be dual-hatted if approved by Air Force Materiel Command (AFMC) or Air Force Space Command (AFSPC) and the PEO.

6.1.4 PERFORM LOGISTICS HEALTH ASSESSMENT (LHA).

Although recommended for all acquisition programs, the Logistics Health Assessment (LHA) is required for all AFLCMC programs; all ACAT levels that are listed on the Acquisition Master List (AML), and is to be performed inside the Acquisition Workbench LHA module on a semi-annual basis in all phases of Life Cycle Management. Additionally, the LHA feeds the AFMC Weapon System Enterprise Review (WSER).

6.2 INCLUDE THE SUPPORTABILITY REQUIREMENTS IN DEFENSE CONTRACT MANAGEMENT AGENCY MEMORANDUM OF AGREEMENT (DCMA MOA).

MOA is similar in concept to PMA/SMA; reference Appendix A, 2.16 Ensure Supportability Included in PMA/SMAs Checklist.

6.3 PARTICIPATE IN PRODUCTION CONTRACT OVERSIGHT AND REVIEW.

The logistician needs to participate in the Support Equipment Guidance Conference, understand the Deficiency Report (DR) process and participate in Configuration Control Boards (CCB). The logistician should be actively involved in contract management. This includes reviewing Data Item Deliverables (DIDs), schedules, contract changes, cost, and performance.

6.3.1 REACCOMPLISH SUPPORT EQUIPMENT (SE) GUIDANCE CONFERENCE AS REQUIRED. Reference Appendix A, 3.47.1 Accomplish SE Guidance Conference Checklist. If conference was accomplished during Low Rate Initial Production (LRIP) this task is an update.

6.3.2 PARTICIPATE IN THE DEFICIENCY REPORT (DR) PROCESS.

See AFI 21-115(I) *Product Quality Deficiency Report Program* and Reference Appendix A, 3.47.2 Provide Logistics Support During the DR Process Checklist.

6.3.3 PARTICIPATE IN THE CONFIGURATION CONTROL BOARD (CCB).

See AFI 63-131 *Modification Management*, MIL-HDBK-61A (SE) *Configuration Management Guidance.* Reference Appendix A, 3.47.3 Participate in the CCB Checklist.

6.3.4 ACCOMPLISH THE PROVISIONING CONFERENCE.

If conference was accomplished during Low Rate Initial Production (LRIP) this task is an update. See AFMCI 23-101 *Air Force Provisioning Instruction,* AFMCI 23-104 *Functions and Responsibilities of the Equipment Specialist during Provisioning* and Reference Appendix A, 4.65 Accomplish Spares Provisioning Conference Checklist.

6.3.5 REVIEW, *DEVELOP* CDRL*s,* SOW *AS NEEDED.*
Validate data deliverables for system data entry.

6.4 DEVELOP *A WORKLOAD REALIGNMENT PLAN (*TRANSITION SUPPORTPLAN*).*
Program realignment, to include transfer of program management responsibilities, is the process by which Air Force systems and acquisition programs are formally realigned between geographically separate locations. Management authorities and responsibilities execute through the PEO regardless of program location. The PEO shall thoroughly coordinate the transition requirements, activities, and time frames associated with realignment. The overall objective of this process is to ensure a seamless and transparent (to the user) transition of the system or program (per AFI 63-101/20-101). The PM, Product Support Manager (PSM) and Product Support Integrator (PSI) should collaborate on planning activities, including estimated milestones for management transfer. These planning activities should be included in the Life Cycle Sustainment Plan (LCSP) or Life Cycle Management Plan (LCMP) (as approved by the MDA) as early as possible to allow stakeholder resources (manpower and other infrastructure) lead time to be programmed and put in place in time to accommodate the transfer. Identify any supportability/logistics requirements for any follow-on (post-production) testing required. Ensure timely input of operational and maintenance funding requirements into Centralized Access for Data Exchange (CAFDEx). Determine and document plan to shift/share TOMA duties at time of program transition. Reference Appendix A, 5.6 Program Realignment Checklist and 5.8.1 Utilize Centralized Asset Management (CAM) / Centralized Access for Data Exchange (CAFDEx).

6.5 COMPLETE *P*ROGRAM *T*RANSFER *T*EMPLATE FOR *P*ROGRAM *E*XECUTIVE *O*FFICER *(PEO) R*EVIEWS.
This template outlines a collaborative, (acquisition and sustainment), seamless, repeatable process that ensures a supportable program transition between acquisition and sustainment portfolios. The template can be adjusted as necessary to meet unique program information requirements. This template is required at the PEO review if program is within 2 years of established transfer date.

6.6 COMPLETE *S*USTAINMENT *Q*UAD *C*HART *T*EMPLATE FOR *P*ROGRAM *E*XECUTIVE *O*FFICER *(PEO) R*EVIEWS.
The Portfolio Review is the culmination of a process that starts at the program level, continues through the PEO, and culminates in a

presentation to SAF/AQ. The most detail will be provided at the PEO level, with summary data and significant issues only briefed to SAF/AQ. The Sustainment Quad chart provides a summary of supportability/product support planning activities to include: major players, transfer eligibility, operation and maintenance funding, overall sustainment element status, and issues. See DoD Product Support Managers (PSM) Guidebook, Fig 5, page 25 for Sustainment Quad Chart and usage Instructions.

6.7 ENSURE SUPPORTABILITY IS INCLUDED IN PROGRAM MANAGEMENT / SERVICES MANAGEMENT AGREEMENTS (PMA/SMAs).
Reference Appendix A, 2.16 Ensure Supportability Included in PMA/SMAs Checklist.

6.8 REVIEW THE LOGISTICS ACTIVITIES IN THE INTEGRATED MASTER PLAN/INTEGRATED MASTER SCHEDULE (IMP/IMS).
Reference Appendix A, 2.23 Include Product Support Activities in the IMP/IMS Checklist.

6.9 CONTINUE TO EVALUATE CONTRACTOR DELIVERED DATA.
The logistician should review logistics data including Commercial Off-The-Shelf and Contractor Data Requirements List. Other data to review is level of repair analysis, maintenance task analysis, reliability centered maintenance, engineering data, provisioning, maintenance check flight, etc. Reference Appendix A, 3.50 Evaluate Contractor Delivered Data Checklist and 3.50.1 Manage TO Acquisition Program Checklist and 3.37.13 Develop a DMSMS Program Checklist.

6.10 CONTINUE SUSTAINMENT MANAGEMENT PLANNING.
Complete Sustainment Management Planning to develop an approved course of action based on balanced warfighter requirements to include updates to the Life Cycle Sustainment Plan (LCSP), Centralized Asset Management (CAM)/Program Objective Memorandum (POM), System Engineering Plan (SEP), Performance Based Agreements (PBA), Program Management/Services Management Agreements (PMA/SMA), Supply/Maintenance Forecasting, Aircraft Structural Integrity Program (ASIP), Propulsion Structural Integrity Program (PSIP), Mechanical Equipment and Sub-systems Integrity Program (MECSIP) Force Structure Maintenance Plan (FSMP) and Requirements. This task includes strategies for sustainment management execution. Utilize the Next Generation CLS Contract Sustainment Support Guide (CSSG) for proven best practices in developing product support strategies. Reference Appendix A, 6.10 Update Product Support Strategy for Sustainment in LCSP Checklist, 6.11 Sustainment Systems Engineering Checklist and 2.15.1.1 Unique Munitions Acquisition Activities Checklist. Ensure coordination with stakeholders. The logistician must identify the stakeholders that would be affected by the planning effort (e.g., established platform modification programs that may be impacted). Stakeholders include, but are not limited to, supply chain management

and depot maintenance in AFSC, acquisition within AFLCMC, AFRL, AFTC, and AFNWC. Relationships among these USAF organizations are critical to ensure consistency of data usage. Data is used for planning, budgeting, maintenance, and execution of the supply chain, depot operations and MAJCOM support.

6.11 ENSURE SUSTAINMENT SYSTEMS ENGINEERING ADDRESSED.
Reference Appendix A, 6.11 Sustainment Systems Engineering Checklist and 2.13.1 Human Systems Integration (HSI) Checklist.

6.12 EXECUTE MATERIAL SUPPORT FOR SUSTAINMENT MANAGEMENT.
This includes the 448th Supply Chain Management Wing, Spares, Organic Manufactured Supply Items, Support Equipment/Automatic Test Systems, Contractor Supported Weapon System (CSWS), Technical Data, Government Furnished Property - Material (GFP-MAT) Weapon System Support Program (WSSP), and Defense Logistics Agency (DLA). Understand the Commodity Council's role in the Supply Chain Management Strategy: They develop a sourcing strategy for commodities groups that are managed in the Air Force Sustainment Center (AFSC). Reference Appendix A, 6.12 DLA Interface Checklist and 4.11 WSSP Checklist.

6.13 ENSURE CONTRACT/AGREEMENT FOR SUSTAINMENT (ORGANIC, COMMERCIAL AND PARTNERSHIPS).
Specifically includes contractor logistics support**.** The PSM must ensure appropriate management and control activities are in place to accommodate and address Diminishing Manufacturing Sources and Material Shortages (DMSMS) issues.   This could include Systems Integration Service Contracts and Centralized Asset Management (CAM)/Centralized Access for Data Exchange (CAFDEx) requirements. Reference Appendix A, 5.8.1 Utilize Centralized Asset Management (CAM) / Centralized Access for Data Exchange (CAFDEx).

Organic Maintenance - Encompasses maintenance and other services performed at a Depot Management Activity Group (DMAG) funded Air Force organic facility or other DoD facility. These organic facilities, shop equipment, support equipment, supplies, and spares are all owned by the government and all personnel are employed by the government. Reference AFMCMAN 20-1 *Maintenance Planning and Execution System*.

Contract Depot Level Maintenance - Depot level maintenance performed by a commercial organization under contract with Depot Management Activity Group (DMAG).   Reference AFMCMAN 20-1 *Maintenance Planning and Execution System*.

Public-Private Partnerships for Depot Level Maintenance – Public-Private Partnerships are a logistics sustainment philosophy involving a cooperative agreement between DoD and private sector entities. The

purpose of public-private partnerships is to leverage the optimal capabilities of both the public and private sectors in order to enhance depot support to the warfighter. The Program Manager (PM) in collaboration with the Enterprise Repair Manager (ERM), candidate depots, lead and using commands, and other stakeholders will develop a depot maintenance strategy that addresses both the requirement to conduct organic repair and to pursue a public-private partnership approach where feasible. Reference *Public-Private Partnerships for Depot-Level Maintenance and* AFI 63-101/20-101.

6.14 ACQUIRE *FULL SUPPLY SUPPORT CAPABILITY.*

Includes management actions, procedures, and techniques necessary to determine requirements to acquire, catalog, receive, store, transfer, issue, and dispose of spares, repair parts, and supplies. In layman's terms, this means having the right spares, repair parts, and supplies available, in the right quantities, at the right place, at the right time, at the right price. Utilize the Supply Support Working Group (SSWG). The process includes provisioning for initial support, as well as acquiring, distributing, and replenishing inventories. "Full" refers to the attainment of the capability to effectively employ a weapon system, item of equipment, or system of approved specific characteristics, with the appropriate number, type, and mix of spares, repair parts and supplies necessary to operate, maintain, and support the system. Consider application of modeling, simulation and analysis tools. Consider product data requirements (reference Product Data Acquisition (PDAQ) Guidance). Use readiness based sparing tools (reference AFMCMAN 23-1) for spares requirements determination to the greatest extent possible. If appropriate consider the impact of classified programs. Reference: AFMCI 23-301, *Weapon System Supply Chain Management* and AFMCI 23-106, *Initial Requirements Determination* and AFMCI 23-101, *Air Force Provisioning Instruction.* Ensure hazardous materials authorizations are prepared and submitted to site/installation hazardous material management office. Reference Appendix A, 1.6.1 Consider application of modeling, simulation and analysis tools Checklist and 2.9.1 Address Environment, Safety, and Occupational Health Checklist.

Note: For contractor supported systems ensure coverage of this task. Reference Appendix A, 4.65 Accomplish Spares Provisioning Conference Checklist.

6.14.1 EXECUTE *CONTRACT REQUIREMENTS.*

6.14.2 MONITOR *CONTRACTOR SPARES PROGRESS.*

6.14.3 MONITOR *CONTRACTOR DELIVERY.*

6.14.4 RECEIVE *SPARES.*

6.14.5 MONITOR *SPARES UTILIZATION.*

6.14.6 ADDRESS DIMINISHING MANUFACTURING SOURCES AND MATERIAL SHORTAGES (DMSMS) ISSUES.

6.14.7 RESPOND TO DEFICIENCY REPORTS (DRs).

6.15 ACQUIRE FULL SUPPORT EQUIPMENT CAPABILITY.

Includes acquiring equipment (mobile or fixed) required to support the operation and maintenance of a system. This includes ground handling and maintenance equipment, tools, metrology, and calibration equipment, and manual and automatic test equipment. During the acquisition of systems, logisticians are expected to decrease the proliferation of Support Equipment (SE) into the inventory by minimizing the development of new SE/ATS and giving more attention to the use of existing government or commercial equipment. "Full" refers to the attainment of the capability to effectively employ a weapon system, item of equipment, or system of approved specific characteristics, with the appropriate number, type, and mix of SE necessary to operate, maintain, and support the system. Consider application of modeling, simulation and analysis tools. Reference Appendix A, 3.37.3 Address SE/ATS Management Checklist and 1.6.1 Consider application of modeling, simulation and analysis tools checklist.

Note: For contractor supported systems ensure coverage of this task.

6.15.1 EXECUTE CONTRACT REQUIREMENTS.

6.15.2 MONITOR CONTRACTOR SUPPORT EQUIPMENT (SE) PROGRESS.

6.15.3 MONITOR CONTRACTOR DELIVERY.

6.15.4 RECEIVE SUPPORT EQUIPMENT (SE).

6.15.4.1 BASE ORDERS SUPPORT EQUIPMENT (SE) FROM ALLOWANCE SOURCE CODE LIST (MAJCOM).

Unit submits Equipment Authorization (TACR/601) to the Logistics Readiness Squadron (LRS) Equipment Section for authorization to receive the equipment. Request is entered into AFEMS and sent to the Command Equipment Management Office (CEMO) for approval. CEMO will coordinate with the Command Functional for approval and forward to the allowance manager to add the stock number(s) to the allowance standard authorizing the LRS to order the item(s).

6.15.4.2 LOAD ORGANIZATION CODE IN AIR FORCE EQUIPMENT MANAGEMENT SYSTEM (AFEMS).

6.15.4.3 BUILD AUTHORIZATION PACKAGES FOR SUPPORT EQUIPMENT (SE) REQUIREMENTS.

6.15.4.4 BUILD SUPPORT EQUIPMENT (SE) READINESS PLAN (PHASING SCHEDULE).

6.15.4.5 CUSTOMER PLACES EQUIPMENT ON ORDER THROUGH EQUIPMENT MANAGEMENT / LOGISTICS READINESS SQUADRON (LRS).

6.15.5 MONITOR SUPPORT EQUIPMENT (SE) UTILIZATION.

6.15.6 ADDRESS DIMINISHING MANUFACTURING SOURCES AND MATERIAL SHORTAGES (DMSMS) ISSUES.

6.15.7 RESPOND TO DEFICIENCY REPORTS (DR).

6.16 ACQUIRE FULL TRAINING AND TRAINING EQUIPMENT CAPABILITY.
Training encompasses the policy, processes, procedures, techniques, training devices, and equipment used to train civilian and military personnel to acquire, operate and support a system. This includes individual and crew training, new equipment training, initial, formal, and on-the-job training. Though the greatest amount of training is accomplished just prior to the fielding of a system, it must be remembered in most programs, a large number of individuals must also be trained during system development to support the system test and evaluation program. "Full" refers to the attainment of the capability to effectively employ a weapon system, item of equipment, or system of approved specific characteristics, with the appropriate number, type, and mix of trained personnel necessary to operate, maintain, and support the system.

Note: For contractor supported systems ensure coverage of this task.

6.16.1 EXECUTE CONTRACT REQUIREMENTS.

6.16.2 MONITOR CONTRACTOR TRAINING MATERIAL / EQUIPMENT PROGRESS.

6.16.3 MONITOR CONTRACTOR DELIVERY.

6.16.4 RECEIVE TRAINING MATERIAL / EQUIPMENT.

6.17 ACQUIRE UPDATED TECHNICAL ORDERS.
The TO Manager must ensure formal technical order update requirements are on contract (Technical Manual Contract Requirements (TMCR) Document) as a deliverable if required. The contractor must develop updates to the technical orders after all changes have been approved and incorporated IAW the TMCR. Reference Appendix A, 3.50.1 Manage TO Acquisition Program Checklist.

6.17.1 EXECUTE CONTRACT REQUIREMENTS.

6.17.2 MONITOR CONTRACTOR (SUPPORT EQUIPMENT, DEPOT AND REMAINING FIELD) TECHNICAL ORDERS / MANUALS PROGRESS.

6.17.3 MONITOR CONTRACTOR DELIVERY.

6.17.4 RECEIVE TECHNICAL ORDERS / MANUALS.

6.17.5 RESPOND TO DEFICIENCIES.

6.18 ENSURE ACTIVE RELATIONSHIPS ARE ESTABLISHED BETWEEN MAINTENANCE AND SUPPLY.

Relationships amongst USAF organizational stakeholders (AFSC, AFLCMC, DLA, MAJCOMS) are critical to ensuring consistency of data usage. Data is used for planning, budgeting, maintenance, execution of the supply chain, depot operations, and MAJCOM support. Reference Appendix A, 6.10 Update Product Support Strategy for Sustainment in LCSP Checklist and 6.18 Equipment Specialist Checklist.

6.19 DELIVER FULL SUPPLY SUPPORT CAPABILITY.

"Full" refers to the attainment of the capability to effectively employ a weapon system, item of equipment, or system of approved specific characteristics, with the appropriate number, type, and mix of spares, repair parts and supplies necessary to operate, maintain, and support the system. Ensure vendors deliver to DLA defense depots and Air Force installations in the prescribed packaging as required by the contract solicitation. Ensure hazardous materials authorizations are prepared and submitted to site/installation hazardous material management office.

6.20 DELIVER FULL SUPPORT EQUIPMENT CAPABILITY.

"Full" refers to the attainment of the capability to effectively employ a weapon system, item of equipment, or system of approved specific characteristics, with the appropriate number, type, and mix of Support Equipment necessary to operate, maintain, and support the system. Ensure vendors deliver to DLA defense depots and Air Force installations in the prescribed packaging as required by the contract solicitation. Reference Appendix A, 3.37.3 SE/ATS Management Checklist.

6.21 DELIVER TRAINING AND TRAINING EQUIPMENT CAPABILITY.

This refers to the attainment of the capability to effectively employ a weapon system, item of equipment, or system of approved specific characteristics, with the appropriate number, type, and mix of trained personnel necessary to operate, maintain, and support the system. Ensure vendors deliver to DLA defense depots and Air Force installations in the prescribed packaging as required by the contract solicitation.

6.22 DELIVER UPDATED TECHNICAL ORDERS IF REQUIRED BY THE TECHNICAL MANUAL CONTRACT REQUIREMENTS (TMCR) DOCUMENT.

Reference Appendix A, 3.50.1 Manage TO Acquisition Program Checklist.

6.23 CONTINUE TO CONDUCT SITE ACTIVATION AND FIELDING (SATAF) AS REQUIRED.

The SATAF is concerned with planning and activating each operational site and comprised of representatives from the using/operating command, the Program Manager(PM), item managers, support equipment specialists, AETC, and the contractor. The SATAF provides on-site assistance and surveillance to facilitate operational testing and training, and develops a logistics support capability to include site activation plans.

The senior logistician is normally delegated the responsibility to coordinate support planning for site activation. The tasks and milestones of site activation management will be detailed in Site Activation Plans and the support planning document. Ensure that feedback is obtained from base level environmental staff to be used in updated planning. Reference Appendix A, 5.14 Site Activation Task Force (SATAF) Checklist and 3.11 Define and Implement MILCON Requirements Checklist.

6.24 CONTINUE THE DEPOT MAINTENANCE WORKING GROUP (DMAWG).
The objective of the DMAWG is to ensure a required depot maintenance capability is set up in a timely and efficient manner to achieve government-controlled capabilities for the depot repair. The DMAWG is the forum for conducting depot source of repair planning and activation to ensure funding, contracting, and delivery of data is accomplished. If support concept is total Contractor Logistics Support (CLS), a DMAWG is not required; however a Contractor Depot Activation Plan is still required. If Depot activation stands up depot repair capability at another DoD Service ensure DMISA development is included in list of activation activities. See AFMCI 21-101 *Depot Maintenance Activation Planning (DMAP)* and Reference Appendix A, 3.6 Establish DMAWG Team Checklist.

6.24.1 CONTINUE PERIODIC LOGISTICS PLANNING MEETINGS.
The purpose is to coordinate and plan logistics management to ensure supportability of developed and fielded systems with all stakeholders (sometimes called an Integrated Logistics Support Team). Logisticians should ensure they participate in other program reviews (e.g., Program Management Reviews (PMR), Test Reviews, Configuration Reviews, System Requirements Review etc.).

6.24.2 UPDATE THE PRODUCT SUPPORT BUSINESS CASE ANALYSIS (PS BCA).
The PM/PSM shall perform a product support BCA to validate the product support strategy is cost effective, financially feasible, and optimizes system readiness. The product support BCA is required for ACAT I, IA, and II programs but is at the discretion of the MDA for ACAT III programs. The PM/PSM shall document the strategy decision and rationale in the LCSP. The PM/PSM shall maintain a complete history of BCAs over the course of the system life cycle to track decisions and understand how real-world operations cause program impacts. The PM/PSM revalidates the business case prior to any change in the product support strategy or every five years, whichever occurs first (per AFI 63-101/20-101). The Product Support BCA must follow DoD Product Support BCA Guidebook. For major weapon systems this can take 1-2 years to complete. The PSM/Logistician will be actively leading this process. Reference Appendix A, 3.4.1 Product Support (PS) Business Case Analysis (BCA).

6.25 REVIEW AND UPDATE THE PROGRAM OBJECTIVE MEMORANDUM (POM) AND BUDGET INPUTS FOR SUPPORTABILITY REQUIREMENTS.

Specifically include funding for Diminishing Manufacturing Sources and Material Shortages (DMSMS) programs and engineering projects. This should include inputs to Centralized Asset Management (CAM) / Centralized Access for Data Exchange (CAFDEx) requirements. Reference Appendix A, 3.28 Include Supportability Requirements in POM submission Checklist and 5.8.1 Utilize Centralized Asset Management (CAM) / Centralized Access for Data Exchange (CAFDEx).

6.26 ANALYZE DATA FROM THE FOLLOW-ON TEST AND EVALUATION (FOT&E) AND FORCE DEVELOPMENT EVALUATION (FDE) TO ASSESS SUPPORTABILITY.

6.27 ENSURE THE INITIAL OPERATIONAL CAPABILITY (IOC) SUPPORTABILITY ASSESSMENTS ARE COMPLETED.

IOC is usually defined as the first attainment of capability to effectively employ a weapon, item of equipment, or system of approved specific characteristics with the appropriate number, type, and mix of trained and equipped personnel necessary to generate, maintain and support the system. These assessments should provide key opportunities to identify design interface (hardware, software, and human) issues that should be resolved to satisfy the required capabilities.

6.28 RESOLVE SUPPORTABILITY ISSUES.

As supportability issues surface, the logistician must review and mitigate the issues to the benefit of the program. Consider application of modeling, simulation and analysis tools. Reference Appendix A, 1.6.1 Consider application of modeling, simulation and analysis tools Checklist. Utilize your Diminishing Manufacturing Sources and Material Shortages (DMSMS) program as established. Reference Appendix A, 3.37.13 Develop a DMSMS Program Checklist.

6.29 RESERVED

6.30 ENSURE SUPPORTABILITY INCLUDED IN PROGRAM MANAGEMENT / SERVICES MANAGEMENT AGREEMENTS (PMA/SMAS).

Reference Appendix A, 2.16 Ensure Supportability Included in PMA/SMAs Checklist.

6.31 ENSURE PRODUCTION SHUT DOWN.

Ensure all tasks are completed for production line shut down of the weapon system. Accountability and disposition of Government Furnished Equipment (GFE), Government Furnished Property (GFP), and United States Government assets are required. Assess technical data currency for potential update requirements. Ensure production line support equipment and resources that could have application at depots or field locations are evaluated for such use. Ensure the disposal plan has been reviewed for applicable item usage in the event the item is brought back into service. This will facilitate contract closeout once all monies are

expended. Reference Appendix A, 6.31 Post Production Support Planning Checklist.

6.32 EXECUTE *THE APPROVED WORKLOAD REALIGNMENT PLAN (TRANSITION SUPPORT PLAN).*

Program realignment, to include transfer of program management responsibilities, is the process by which Air Force systems and acquisition programs are formally realigned between geographically separate locations. Management authorities and responsibilities execute through the PEO regardless of program location. The PEO shall thoroughly coordinate the transition requirements, activities, and time frames associated with realignment. The overall objective of this process is to ensure a seamless and transparent (to the user) transition of the system or program (per AFI 63-101/20-101). The PM, Product Support Manager (PSM) and Product Support Integrator (PSI) should collaborate on planning activities, including estimated milestones for management transfer. These planning activities should be included in the Life Cycle Sustainment Plan (LCSP) or Life Cycle Management Plan (LCMP) (as approved by the MDA) as early as possible to allow stakeholder resources (manpower and other infrastructure) lead time to be programmed and put in place in time to accommodate the transfer. Identify any supportability/logistics requirements for any follow-on (post-production) testing required. Ensure timely input of operational and maintenance funding requirements into Centralized Access for Data Exchange (CAFDEx). Reference Appendix A, 5.6 Program Realignment Checklist and 5.8.1 Utilize Centralized Asset Management (CAM) / Centralized Access for Data Exchange (CAFDEx).

6.33 MANAGE *SUSTAINMENT BUSINESS ACTIVITIES.*

The process of establishing, maintaining, and enforcing business processes (finance, contracting, supplier selection, metrics, partnership strategies) which translate to rules for conducting business and align with business strategy, goals, and objectives. Utilize the Logistics Requirements Determination Process (LRDP) to ensure utilization of Centralized Asset Management (CAM)/Centralized Access for Data Exchange (CAFDEx),   FSIP, Life Cycle Systems Engineering (OSS&E, ASIP, and ENSIP). Reference AFI 63-101/20-101*,* AFMCI 63-1201 *Implementing OSS&E and Life Cycle Systems Engineering*, AFI 21-101 *Aircraft and Equipment Maintenance Management*, AFI 21-129 *Two Level Maintenance and Regional Repair of Air Force Weapon Systems and Equipment.* Reference Appendix A, 6.33 Manage Sustainment Business Activities Checklist. Review the Enterprise Logistics Flight Plan (ELFP) to ensure processes align to current/future Air Force way of doing business – creation of Operational/System/Technical View document may be required.

6.33.1 PARTICIPATE *IN THE DEFICIENCY REPORT (DR) PROCESS.*

Reference Appendix A, 3.47.2 Provide Logistics Support During the DR Process Checklist.

6.33.2 PARTICIPATE IN THE CONFIGURATION CONTROL BOARD (CCB).
See AFI 63-131 *Modification Management* and MIL-HDBK-61A (SE) *Configuration Management Guidance.* Reference Appendix A, 3.47.3 Participate in the CCB Checklist.

6.34 MANAGE RESOURCES.
Managing, maintaining, and resourcing (financial, manpower/personnel, spares, support equipment, technical data, and metrics) which ensure product availability.

6.35 MANAGE INFORMATION AND COMMUNICATION ACTIVITIES.
The Air Force Policy on standardized Information Technology (IT) systems does not allow individual programs to develop unique IT systems. The logistician should participate in the identification of any IT systems required for supportability. Reference Appendix A, 6.35 Manage Information and Communication Activities Checklist.

6.36 PARTICIPATE IN RISK MANAGEMENT.
A risk management approach for use in the acquisition of new systems, end-items, and equipment based upon four attributes: risk management planning, risk assessment, risk mitigation, and risk management control. When properly implemented, an effective risk management program facilitates identification of areas that require special attention and sets realistic, executable technical, schedule, and cost objectives. Risk Management is applicable to all phases and aspects of any acquisition or modernization program. The logistician needs to continue to participate on the risk management team to ensure identification of any risk relative to the product support element, systems engineering and life cycle support costs, schedule and technical performance. The appropriate reference is AFI 63-101/20-101, para 3.10.6 PS Risk Mgmt. Product Support risks need to be addressed and documented within each CCTD. These risk assessments must address adverse impacts on warfighters capabilities to operate, maintain and support the system in an effective and safe manner. Consideration must also be given to reclamation, demilitarization and disposal. Reference AFPAM 63-128 *Integrated Life Cycle Management* Chapter 12 and Appendix A, 2.22 Participate in Integrated Baseline Review (IBR) Checklist.

6.36.1 PROVIDE INFORMATION AS REQUIRED TO THE CONFIGURATION STEERING BOARD (CSB) FOR ACAT I AND IA PROGRAMS.
See DoDI 5000.02.

6.37 PERFORM STRATEGIC PROGRAM PLANNING.
During the O&S phase, the PM must plan for technology insertion programs, modification of subsystems and the weapon system, changes in flying hours, extension of useful life, and changes to support concepts.

This planning is an iterative process and must be reviewed and updated as needed. The program manager will be responsible for planning the program with inputs from functional experts to include the POM and program/services management for sustaining a system or subsystem. Reference Appendix A, 3.28 Include Supportability Requirements in POM submission Checklist.

6.38 PERFORM INTELLIGENCE INTEGRATION DURING OPERATION AND SUPPORT PHASE.

Coordinate with the intelligence office to obtain threat assessments as necessary to ensure the system remains mission effective and survivable throughout its life cycle. Reference Appendix A, 1.1 Accomplish Intelligence Integration throughout the Life Cycle Checklist and 2.13.1 Human Systems Integration (HSI) Checklist for unique HSI overlaps that may influence the intelligence integration.

6.39 CONDUCT SUSTAINMENT REVIEWS.

For Sustainment Program Reviews, ensure the Sustainment Quad Charts in the PEO Portfolio Review are validated. Other potential reviews: Product Improvement Working Group (PIWG), Corrosion Prevention Advisory Board (CPAB), Software Working Group (SWG), Reliability Centered Maintenance (RCM), Weapon System Enterprise Review (WSER), System Safety and Material Safety Task Group (MSTG), Acquisition Sustainment Review (ASR) and Cockpit Working Group (CWG). See DoD Product Support Managers (PSM) Guidebook, Fig 5, page 25 for Sustainment Quad Chart and usage Instructions.

6.39.1 CONDUCT PERIODIC REVIEWS/VALIDATIONS OF DEPOT SOURCE OF REPAIR (DSOR) DECISIONS EVERY 5 YEARS OR AS REQUIRED FOR FIELDED SYSTEMS.

The DSOR Periodic Review (PR)/validation process is used to reassess prior DSOR decisions: Critical Design Review (CDR) + 90 days, every 5 years, at FRP, at Milestone C, or when major changes occur that could potentially affect previous DSOR decisions (e.g., major changes in the length of a program's life cycle, major modifications, significant increases in cost ($\geq$20%), quantities of fielded systems ($\geq$20%), etc.). For fielded systems, the DSOR Periodic Review process will be initiated as soon as the change in posture is considered. During the course of the PR, it may be determined that another DSOR is required to better posture the DoD to support a program.

6.40 ENSURE SUPPORTABILITY IS INCLUDED IN PROGRAM MANAGEMENT / SERVICES MANAGEMENT AGREEMENTS (PMA/SMAS).

Reference Appendix A, 2.16 Ensure Supportability Included in PMA/SMAs Checklist.

6.41 PERFORM DATA MANAGEMENT.

Data management is the process of applying policies, procedures, and tools for the identification and control of data requirements, for assuring the adequacy of data and for facilitating the timely, economical acquisition and availability of data, including digital delivery or access. In simple terms, data management is the process for the acquisition of data (access or delivery) through contractual vehicles, so that data is available for use by authorized users. The type of data to which this applies includes research and development, acquisition, and logistics/technical order (TO) information. Data managers plan for acquisition and management of defense system data during each phase of the system life cycle. Data management planning supports the defense system program acquisition, logistics support and integrated product/process team strategies; and the information processing infrastructure of the program office, supporting organizations, and field operations (i.e., data users). The logistician needs to ensure logistics data requirements including data requirements for support equipment are identified and incorporated into the appropriate contractual vehicles. Consider product data requirements (reference Product Data Acquisition (PDAQ) Guidance). Review the Enterprise Logistics Flight Plan (ELFP) to ensure processes align to current/future Air Force way of doing business – creation of Operational/System/Technical View document may be required.

6.41.1 *MANAGE TECHNICAL ORDER (TO) SUSTAINMENT.*
The Flight Manual Manager for a weapons system will conduct a Flight Manual Review Conference (FMRC) at least annually unless the using commands agree to delay IAW AFI 11-215 *USAF Flight Manuals Program (FMP).* Technical Order sustainment conferences are addressed by TO 00-5-3, *AF Technical Order Life Cycle Management.* Perform post-publication reviews to evaluate and improve formal TOs after delivery to the using command. Reference Appendix A, 6.41.1 Manage TO Sustainment Checklist.

6.41.2 CONTINUE *COLLECTING AND REFINING DATA TO SUPPORT SYSTEM LIFE CYCLE INTEGRITY MANAGEMENT (SLIM).*
Manage O&M Data which records how the equipment is used, maintained and identify environmental conditions the system is exposed to during its life cycle. Collect data such as:
- How manufactured, employed/operated, maintained and modified
- Thermal, humidity and vibration environmental data

The purpose is to predict the Remaining Usable Life (RUL) of an installed component. Reference Appendix A, 2.3.1 Implement SLIM Processes and Programs Checklist, 4.15 SLIM Checklist and 6.41.2 SLIM Checklist.

6.42 IMPLEMENT *SUSTAINMENT SYSTEMS ENGINEERING.*
Focusing on the operational requirements of the system, both peacetime and wartime scenarios, create a plan to use systems engineering

resources to address the operational requirements. Reference Appendix A, 6.11 Sustainment Systems Engineering Checklist and 2.13.1 Human Systems Integration (HSI) Checklist.

6.43 ENSURE DEPOT ACTIVATION ACCOMPLISHED. (NOT LATER THAN 4 YEARS AFTER INITIAL OPERATING CAPABILITY (IOC)).
If Organic Depot repair is performed by another DoD Service ensure establishment of Depot maintenance Inter-Service Support Agreement (DMISA) as Depot repair capability is activated.

6.44 DETERMINE SUPPLY REQUIREMENTS.
Using the appropriate system, the logistician must determine the proper mix of replenishment spare buy and repair requirements to support the users. Consider application of modeling, simulation and analysis tools. Reference Appendix A, 1.6.1 Consider application of modeling, simulation and analysis tools Checklist.

6.45 COORDINATE SUPPLY REQUIREMENTS FOR DEFENSE LOGISTICS AGENCY (DLA) MANAGED ITEMS.
Using the appropriate systems, DLA responds to requirements generated from Air Force established supply levels (SBSS, DO35, Customer Oriented Leveling Technique (COLT), future AF enterprise supply chain capability) as well as coordinated increases and decreases which are forecasted on a monthly basis for up to 5 years. These processes are addressed in *AFI 23-101, Air Force Materiel Management*, and executed by 448 SCMW.

6.46 OBTAIN AND RENEW SUPPLY SOURCES.
Maintenance and supply sources must continuously be reviewed and updated as the program evolves during the O&S phase. Consider application of modeling, simulation and analysis tools. Reference Appendix A, 1.6.1 Consider application of modeling, simulation and analysis tools Checklist.

6.47 RESERVED

6.48 MANAGE COMPUTER RESOURCES.
The support (logistics) to manage computer resources can include funding configuration control support to the appropriate Air Logistics Complexes Software Control Center (SCC), ensuring Software/System Integration Labs (SILs) with the appropriate weapon system assets are supported, ensuring the appropriate level of technical expertise and plans for developing new expertise is established, and ensuring appropriate net-centric integration between the weapon system and the Government Network Operations Center (GNOC) or local Communications Squadron. A mix of contractor and organic capability is very healthy for a weapon system as long as interfaces, schedules, and expectations between contractors are clearly defined. The logistician should also ensure planning for technology refresh and software/system updates make sense

when comparing them to industry standards and maintaining levels of expertise.

6.49 MANAGE SUPPLY / SUPPORT EQUIPMENT (SE) SUSTAINMENT.

Sustainment materiel consists of replenishment spares (both consumable items and reparable spares), item repair, and other related services. It excludes item and system acquisition modification, research and development, test and evaluation, and system acquisitions. This activity is usually applicable to sustainment Purchase Requests (PRs) generated at Air Logistics Complexes, irrespective of where the contracting action will take place. Ideally, purchase action for sustainment materiel is initiated based on anticipated need rather than an immediate requirement. AFMC requirements computation systems consider PR and contracting lead times to produce buy notices in theoretically sufficient time to meet the need date. Subject to funds availability, PR initiators and supporting specialists will initiate and process PRs in a timely manner such that the customer's need date may be met. In order to minimize the inventory levels computed by the requirements systems, all involved persons will continually strive to minimize the total acquisition lead-time for all buys. Contact the Defense Logistics Agency (DLA) for DLA managed items. Ensure hazardous materials authorizations are prepared and submitted to site/installation hazardous material management office. Review the Enterprise Logistics Flight Plan (ELFP) to ensure processes align to current/future Air Force way of doing business – creation of Operational/System/Technical View document may be required. Reference Appendix A, 3.37.3 SE/ATS Management Checklist, 3.37.13 Develop a DMSMS Program Checklist, and 3.37.14 Develop Supply Support Strategy Checklist.

6.49.1 MANAGE SUPPORT EQUIPMENT (SE) REQUIREMENTS SYSTEM.

6.49.2 ENSURE MAJCOM PRIORITIZES REQUIREMENTS.

6.49.3 ENSURE MAJCOM PRIORITIZED LIST SENT TO AFLCMC/WNZ.

6.49.4 ENSURE CENTRALIZED ASSET MANAGEMENT (CAM) FUNDS APPLIED.

6.49.5 ENSURE AIR LOGISTICS COMPLEX EXECUTES LIST.

6.49.6 ENSURE SUPPORT EQUIPMENT (SE) ORDERED.

6.49.7 EXECUTE SUPPORT EQUIPMENT (SE) REPAIR PROCESS.

6.50 ESTABLISH RETURN PROCESS.

The process initiated by the user of returned material deemed defective/unserviceable. This includes any applicable warranty process, contractor procedures, Deficiency Report (DR) exhibits, unserviceable reparables, life limited parts, condemnations, and disposal actions. Reference Appendix A, 3.47.2 Provide Logistics Support During the DR

Process Checklist, 6.50 Management of Warranties for Contractor Logistics Support (CLS) Commercial Contracts and 6.67 Disposal Checklist.

6.51 DISPOSITION / REUTILIZATION OF PARTS ASSET (PIECE PARTS).

Once items fail completely, or are modified out of use, they need to be disposed of. If the item is cataloged, the determination of what is required to make the item safe (nonhazardous), and how to demilitarize is determined, and documented. If the items are not cataloged, it is the responsibility of the program office to ensure determination is made on what must be declassified, made safe, and demilitarized per Air Force and DoD directives. The owning organization must declassify and make the item safe before it can be turned over to DLA Disposition Services. The program office must program for the manpower to declassify (if appropriate) and make the item safe (include the cost of work and cost for disposal of hazardous material). DLA Disposition Services can demilitarize some assets, but the developer of the item must provide demilitarization instructions. Reference Appendix A, 6.67 Disposal Checklist.

6.52 ENSURE MAINTENANCE CHECK FLIGHT ACTIVITIES ARE PERFORMED.

Once depot maintenance repairs have been completed, a maintenance check flight is required to ensure aircraft is operational. The maintenance operations center and quality assurance are responsible for scheduling the functional check flight per TO 1-1-300, Maintenance Operational Checks and Check Flights. Quality assurance will brief the crew on the purpose, previous maintenance problems and discrepancies, and documentation requirements.

6.53 EXECUTE MAINTENANCE / REPAIR.

This is the process of performing maintenance and repair, organic and contractor, or minor modifications/upgrades to provide operational end items. Examples include back-shop work, local organic manufacturing, Programmed Depot Maintenance, maintenance, software upgrades/updates, small project/modification (non ACAT) upgrades, Technical Data, tests/verify, and kit proofing.

6.54 MANAGE ORGANIC REPAIR.

If the program is designated to be maintained by organic repair, ensure the capabilities are in place to support the requirements generating from the warfighter. End item flow days, material, and cost must be negotiated for each end item. The monitoring of end item production must be maintained to ensure support is being maintained at levels sufficient to support the warfighters.

6.55 MANAGE CONTRACT REPAIR.

If the program is designated to be maintained by contract repair, ensure the contract actions are in place to support the requirements generating

from the warfighter. Contract end item flow days, material, and cost must be negotiated for each end item on the contract. End item production monitoring must be maintained to ensure support is being maintained at levels sufficient to support the users.

6.56 DEVELOP A MODIFICATION PROGRAM.
An alteration to a Configuration Item (CI) applicable to aircraft, missiles, support equipment, ground stations software (embedded) trainers, etc. As a minimum, the alteration changes the form, fit, function or interface of the item. There are two types of modifications: temporary and permanent, which can be made to Air Force weapon systems. A weapon system is defined as a combination of elements that function together to produce the capabilities required to fulfill a mission need, including hardware, equipment, software, users, maintainers, support personnel, and all Product Support elements, but excluding construction or other improvements to real property. Ensure a PSM is assigned for modifications meeting ACAT I and II levels. Ensure Intelligence is consulted regularly for information on emerging threats that might drive a modification. Ensure that the Systems Engineering Plan and System Specification are updated for the modification. The logistician must participate through Design Interface in the Systems Engineering process as applied to the modification. Ensure energy efficiency and alternate fuels considerations are addressed. Logisticians must address the impact of modifications to all Product Support elements as stated in DoD Integrated Product Support (IPS) Elements Guidebook. Formal major modifications should reiterate the acquisition process and return to the appropriate acquisition phase in the PSTK. Reference Appendix A, 3.10.1 Determine Manpower and Personnel Requirements Checklist and 6.56 Modification Management Checklist.

6.56.1 MANAGE TIME COMPLIANCE TECHNICAL ORDER (TCTO) PROCESS.
Reference Appendix A, 6.56.1 Manage TCTO Process Checklist.

6.57 ACQUIRE MODIFICATION SOURCE.
Multiple-year contracting techniques should be used to the maximum extent possible. Multiple-year techniques permit the continuation of a contractual relationship beyond the initial year. They include, but are not limited to, multiple-year contracts and single-year contracts with priced options for follow-on years. Contract should be structured so award or option exercise fits into an appropriate schedule, taking into account whether the key awards should be tied to key milestones (in order to have leverage with the contractor), mod/kit installation schedule, prime and subcontractor's rate production capability, etc.

6.58 DESIGN, INTEGRATE, AND TEST THE MODIFICATION.
Note: For major modifications, return to the beginning of this guide and perform the necessary acquisition and sustainment processes.

6.59 *PERFORM TRIAL INSTALL/KIT PROOF.*
Kit proofing is accomplished to verify form, fit, and function of the kit hardware and software, validate man-hour requirements, and verify Time Compliance Technical Order (TCTO) and Technical Order (TO) changes. The kit proof kit is the first production kit. Trial installation is the first install of a kit into a weapon system to validate performance of the modification. Kit proofing and modification installation will occur throughout the lifecycle of the fielded systems.

6.60 *PERFORM MODIFICATION SYSTEM LEVEL TEST.*
System level testing must be conducted to determine whether or not the installation of the modification produces negative impacts on the operation of the weapon system or other subsystems on board the weapon system.

6.61 *INITIATE MODIFICATION KIT PRODUCTION AND INSTALLATION.*
After successful Kit Proofing/Trial Installation, the contractor should be notified to being full rate production of the kits required to complete the modification. When the kits are delivered, kit installation should be established in accordance with the install schedules developed.

6.62 *UPDATE THE WEAPON SYSTEM SUPPORT PROGRAM (WSSP) DATABASE.*
Reference Appendix A, 4.11 WSSP Checklist.

6.63 *VERIFY DECISION ON SYSTEM DISPOSITION.*
Using information such as useful service life, operational tempo, etc., the logistician will work with the MAJCOMs to develop the disposition strategy for all systems.

6.64 *VERIFY DECISION ON UNIT DISPOSITION (AIRCRAFT TAIL #).*
The logistician will work with the unit, the MAJCOM AVDO (Aerospace Vehicle Distribution Officer), and AF/A8, Strategic Plans & Programs, to identify by tail number all aircraft being removed from the inventory and will annotate those tail numbers in the Migration Plan.

6.65 *DETERMINE DRAWDOWN STRATEGY FOR SUPPORT STRUCTURE.*
As aircraft are scheduled for disposal, the PM must work with the MAJCOM on disposition of all weapon system support infrastructure to include spares, technical orders, training equipment, support equipment, specialized containers, facilities, supply parts, manpower and personnel, environmental cleanup etc. Care must be taken to ensure all designated assets and infrastructure are removed from bases. Coordinate with the Defense Logistics Agency (DLA) and/or packaging office on any packaging issues.

6.65.1 *PROVIDE SUPPORT EQUIPMENT (SE) DISPOSITION (ITEM MANAGER OR MAJCOM).*
Reference Appendix A, 3.37.3 SE/ATS Management Checklist *and* 6.65.1 Provide Support Equipment Disposition Checklist.

6.65.2 SEND SUPPORT EQUIPMENT (SE) TO DEPOT.

6.65.3 FILL SUPPORT EQUIPMENT (SE) BASE SHORTAGES.

6.65.4 SEND SUPPORT EQUIPMENT (SE) TO DEFENSE LOGISTICS AGENCY DISPOSITION SERVICES.

6.66 UPDATE THE MIGRATION PLAN (ANNUAL).

The program manager will develop/revise a migration plan for each Mission Design Series (MDS) on an annual basis and document it in a formal Migration Plan at the end of each fiscal year. Migration planning is a dynamic process that must incorporate numerous factors that impact weapon system sustainment, contingency planning, FMS sales, etc. The Migration Plan itself is a *living document* that reflects the program manager's changing assessment of MDS/block changes, funding levels, and strategies to use storage aircraft to maximize support for the operational fleet. The annual review should include an evaluation of aircraft programmed for induction into AMARG and those in inviolate, spares support, and excess AMARG storage categories. The overall goal will be placing aircraft into programmed reclamation at the earliest possible time in order to offset spare parts buy requirements. Aircraft can be placed into programmed reclamation at the time of induction in order to maximize harvesting of serviceable parts common to operational aircraft. Identification of the specific aircraft serial numbers is required in order to affect current aircraft storage code changes. Aircraft status code changes can occur at any time a need dictates a change in status code reporting. Ensure budget requirements to execute the strategy are input into Centralized Access for Data Exchange (CAFDEx). Reference Appendix A 5.8.1 Utilize Centralized Asset Management (CAM) / Centralized Access for Data Exchange (CAFDEx). This includes long term facilities storage requirements. Reference Logistics Requirements Determination Process (LRDP).

6.67 EXECUTE THE DISPOSITION STRATEGY.

Coordinate with DLA on maintenance and disposal actions. Reference Appendix A, 6.67 Disposal Checklist.

Appendix A - Checklists

1.1   Accomplish Intelligence Integration throughout the Life Cycle

1.2   Review Initial Capabilities Document (ICD) for supportability

1.4   Ensure Cost Estimate includes all Support Costs

1.6.1   Consider Application of Modeling, Simulation and Analysis (MS&A) Tools

1.7   Analysis of Alternatives (AoA) Plan

1.14   Develop Technical Maturation Risk Reduction to Include Product Support

2.3   Define Supportability Objectives

2.3.1   Implement System Life cycle Integrity Management (SLIM) Processes and Programs

2.9.1   Address Environment, Safety, and Occupational Health (ESOH) risk management considerations

2.10   Product Support Capabilities in Preferred System Concept

2.13   Participate in Systems Engineering Plan (SEP) Development

2.13.1 Address Human Systems Integration (HSI)

2.15   Develop Initial Product Support Strategy in Life Cycle Sustainment Plan (LCSP)

2.15.1.1 Unique Munitions Acquisition Activities

2.16   Ensure Supportability Included in Program Management/Services Management Agreements (PMA/SMAs)

2.17   Include Supportability in the Source Selection Plan (SSP)

2.20   Include Supportability Requirements in Request for Proposal (RFP)

2.21.4 Define Contractor Supported Weapon System (CSWS) Data Requirements

2.22   Integrated Baseline Review (IBR)

2.23   Include Product Support Activities in Integrated Master Plan / Integrated Master Schedule (IMP/IMS)

2.24.2 Initiate the Depot Source of Repair (DSOR) Process

2.26   Prepare Documentation for Milestone A

2.35   Participate in SRR (Demonstrate Concepts)

5.27   Participate in Operational Test Readiness Review (OTRR)

5.31   Participate in Physical Configuration Audit (PCA)

5.32   Update Product Support in Life Cycle Sustainment Plan (LCSP)

5.42   Prepare Documentation for Full Rate Production (FRP) Decision

5.42.1 Participate in Foreign Military Sales (FMS) Activities

6.10   Update Product Support Strategy for Sustainment in Life Cycle Sustainment Plan (LCSP)

6.11   Sustainment Systems Engineering

6.12   Execute Material Support for Sustainment Management – Defense Logistics Agency (DLA) Interface

6.18   Equipment Specialist

6.31   Post Production Support Planning

6.33   Manage Sustainment Business Activities

6.35   Manage Information and Communication Activities

6.41.1 Manage Technical Order (TO) Sustainment

6.41.2 Continue Collecting and Refining Data to support System Life Cycle Integrity Management (SLIM)

6.50   Management of Warranties for Contractor Logistics Support (CLS) Commercial Contracts

6.56   Modification Management (AF Form 1067)

6.56.1 Manage Time Compliance Technical Order (TCTO) Process

6.65.1 Provide Support Equipment Disposition

6.67   Disposing of Weapon System, Major end items and associated components

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
1.1	Accomplish Intelligence Integration throughout the life cycle Checklist	See documents listed in tasks 2-7

DESCRIPTION:

The Intelligence integration checklist provides guidance to properly integrate intelligence throughout the life cycle. It defines the Intelligence supportability analysis (ISA) for the program. ISA is an analytical process performed by the Intelligence professionals, conducted as part of the systems engineering process to influence design and requirements. Early and complete intelligence analysis is key to reducing cost, schedule, and performance risk to programs and other activities dependent upon intelligence data, infrastructure, and threat support. Include Human Systems Integration considerations for the intelligence support to provide input to key documents.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Ensure your AFMC field Intelligence Office is contacted to review and/or provide input to the following documents/processes throughout the life cycle. Failure to accurately integrate intelligence may lead to scheduling delays, cost overruns, and decreased operational capabilities. Assistance for human related issues such as cognitive data fusion is available from your MAJCOM HSI cell or 711 HPW/HP 2. Pre-Materiel Solution Analysis Intelligence provides input to -CBA and pre-MDD analyses 3. Materiel Solution Analysis phase Intelligence provides input to -CRRA process -supportability objectives -ICD -AOA -Initial technology review -Threat documentation -Draft CDD -preferred system concept -Preliminary Systems Spec -T&E strategy -System Engineering Plan (SEP) -risk management -Program Protection Plan (PPP) 4. Technical Maturation Risk Reduction Phase Intelligence provides input to -AOA update -Threat documentation -CDD -Systems Performance Spec -TEMP -System Engineering Plan (SEP) update -risk management -operational site reviews -Information Support Plan (ISP) -System Requirement Review (SRR) -Draft LCSP -Program Protection Plan (PPP)	DoDD 5000.01 The Defense Acquisition System DoDI 5000.02 Operation of the Defense Acquisition System DoD PSM Guidebook Weapon System Acquisition Reform Act HSI Acquisition Phase Guide Defense Acquisition Guidebook CJCSI 3312.01A Joint Military Intelligence Requirements Certification AFI 14-111 Intelligence Support to the Acquisition Life Cycle AFI 14-202V3 General Intelligence Rules Paragraph 5.4 AFI 14-205 Geospatial Information and Services AFI 14-206 Modeling and Simulation AFI 10-601 Capability Based Requirements Development Document AFI 99-103 Capability Based Test and Evaluation AFI 63-101/20-101 Integrated Life Cycle Management	All

-Life Cycle Cost Estimate (LCCE) 5. Engineering and Manufacturing Development phase Intelligence provides input to -Threat documentation - CPD -Systems Performance Spec - Manpower and Cost Estimate updates -TEMP -HSI planning update -System Engineering Plan (SEP) update -risk management update -Information Support Plan (ISP) -System Requirement Review (SRR) -SFR -PDR -CDR -TRR -SVR -LCSP update -Program Protection Plan (PPP) update -Life Cycle Cost Estimate (LCCE) update -Modeling and simulation 6. Production and Deployment phase Intelligence provides input to -Threat documentation -Operational Test Readiness Review (OTRR) -Manpower and Cost Estimate updates -TEMP update -HSI updates -System Engineering Plan (SEP) update -Risk Management update -LCSP update -Program Protection Plan (PPP) update -Life Cycle Cost Estimate (LCCE) update -Modeling and Simulation -SATAF -DRs 7. Operations and Support phase Intelligence provides input to -Threat documentation -Strategic program planning -Developing a modification program -Life Cycle Sustainment Plan (LCSP) -Cost estimate -PPP -Risk Management -SEP update Note: Results from intelligence inputs from the above documentation may result in changes required for the 12 Product Support elements.	AFMAN 63-119 Certification of Systems Readiness for Dedicated Operational Testing AFI 62 series policy (multiple) AFPAM 63-113: Program Protection Planning for Life Cycle Management **Sample Documents:** ICD Summary AOA Study Plan SEP Summary PPP Sample TEMP Samples ISP Summary LCSP Sample LCCE Summary	
EXIT CRITERIA:		
See documents listed in tasks 2-7 Properly secured and documented disposal of weapon system		

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
1.2	Review Initial Capability Document (ICD) for supportability	Capabilities Based Analysis (CBA) Supportability Objectives Capabilities Review and Risk Assessment (CRRA) JCIDS DOTMLPF analysis Initial Capabilities Document (ICD) if available

The ICD defines the capability gap in terms of the functional area, the relevant range of military operations, desired effects, and time. The ICD supports the concept decision and Milestone A. The ICD describes capability gaps that exist in joint war fighting functions. It establishes linkages between key characteristics and capabilities identified thru the Functional Area Analysis. Review should include all 12 Product Support elements.
Note: An ICD Stage I (Air Force only) consists of paragraphs 1-5.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Participate in the initial development, review and update of the entire ICD for supportability and usability inputs since these inputs are incorporated throughout. Reference the AFMC/A4 ICD Review Checklist.	CJCSI 3170.01I Joint Capabilities Integration and Development System	Materiel Solution Analysis
2. Review data used to support initial JCIDS analysis	AFI 10-601	Technical Maturation Risk Reduction
3. Understand the operational and threat environment in which capability is exercised and manner in which the capability will be employed. (For Intelligence Reference Appendix A, Checklist 1.1).	CJCSI 3312.01A Joint Military Intelligence Requirements Certification	
4. Analyze operational capabilities and environmental constraints. (For Intelligence Reference Appendix A, Checklist 1.1).	AFI 14-111 Intelligence Support to the Acquisition Life Cycle	
5. Review concept performance definition and verification objectives to include constraints	DoDI 5000.02 Operation of the Defense Acquisition System Enclosure 12	
6. Need to ensure supportability analysis determines cost effective support over system life cycle		
7. Ensure requirements include Technical Orders and other Technical Data, Support Equipment, Packaging, Handling, Storage and Transportation; Reliability, Availability, Maintainability (RAM), Cost; Environment, Safety, and Occupational Health (ESOH), Production, interoperability and maintainability concepts for inclusion into specifications.	DoD PSM Guidebook DoD Product Support BCA Guidebook	
8. Ensure Human Systems Integration implications, constraints and issues are addressed and included in the ICD.	Weapon System Acquisition Reform Act	
9. Ensure DOTMLPF analysis includes logistics considerations. If these are not included ensure analysis is performed.	DoD Guide for Achieving Reliability, Availability, and Maintainability	
a. Evaluate existing facilities installation / capabilities for application.	AFMC/A4 ICD Review Checklist	
b. Ensure consideration of the proposed target audience (user). This includes the cognitive, physical and sensory abilities i.e., capabilities and limitations of the operators, maintainers, and support		

personnel that are expected to be in place at the time the system is fielded.	DoD Reliability, Availability, Maintainability and Cost Rationale Report (RAM-C) Manual	
	DoD Environment, Safety, and Occupational Health Network and Information Exchange (DENIX)	
	HSI Requirements Pocket Guide	
	AFMCI 24-201 AFMC Packaging and Materials Handling Policies and Procedures	
	Sample Documents: ICD Summary AOA Study Plan	

<table>
<tr><td colspan="3" style="background:yellow;">EXIT CRITERIA:</td></tr>
</table>

Analysis of Alternatives guidance
Updated ICD
Technical Maturation Risk Reduction (TMRR)
Clinger-Cohen Certification for Major Automated Information Systems (MAIS)
Capability Roadmap
Initial Technology Review
Preferred System concept
Supportability Objectives
Test and Evaluation Master Plan Strategy
System Engineering Plan

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
1.4	Ensure Cost Estimate includes all Support Costs	Program Established Acquisition Decision Memorandum (ADM)

DESCRIPTION:

Cost estimates cover the entire life cycle of a system and need to adequately address all of the product support elements, including disposal, to ensure the total life cycle cost is understood and used for management decisions. The logistician needs to make sure that all of the costs for acquiring; fielding, sustaining, and disposal are included. Major categories of cost are Intelligence Infrastructure, Support Equipment, Technical Data, Supply Support, Manpower, Personnel, Training and Training Equipment, Data, Depot Activation costs (if organic capability to be established), any Interim Contractor Support or Contractor Logistics Support costs to include Field Service representatives / maintenance activities / inventory management, sustaining engineering costs, depot maintenance, and organizational/intermediate level maintenance.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Engage as a team member on the Cost Estimating Team (FM is normally OPR for this task) and engage as a member on the program Integrated Risk Assessment (IRA) Team. 2. Ensure all 12 Product Support elements are addressed to include Depot Maintenance, O&I Maintenance, testing costs, transportation costs including SDT), Diminishing Manufacturing Sources and Material Shortages (DMSMS), demilitarization and disposal, planned modifications / upgrades, Intelligence, and integration costs if applicable. 3. Specifically include facilities / infrastructure requirements 4. Coordinate technical data such as RAM with Engineering. Ref 1.03.1 5. Ensure all identified costs above are used for applicable program tasks such as ECPs/CCPs, trade studies, SDT budgeting, and new work packages. 6. Participate in yearly updates of the Program Office Estimate and IRA activities to reflect any changes in the system data that would reflect in costs changes. Ensure Intelligence requirements are updated yearly. 7. Ensure Human Systems Integration implications, constraints and issues are addressed and included.	AFI 63-101/20-101 Integrated Life Cycle Management DoD LA Guidebook The first part of the document explains the Independent Logistics Assessment (ILA) process. AFPAM 63-128 Integrated Life Cycle Management AFMC Guide to the Defense Depot Maintenance Council Cost Comparability Handbook AFPD 23-1 Reusing and Disposing of Materiel Paragraph 1 DoD 4140.1-M DoD Supply Chain Materiel Management DoDI 4160.28 DoD Demilitarization (DEMIL) Program DoD 4160.28-M Vol. 1 Defense Demilitarization: Program Admin DoD 4160.28-M Vol 2 Defense Demilitarization: DEMIL Coding DoD 4160.28-M Vol 3 Defense Demilitarization: Procedural Guidance DoD DEMIL Web Page CJCSI 3312.01A Joint Military Intelligence Requirements Certification AFI 14-111 Intelligence Support to the Acquisition Life Cycle DoD Environment, Safety, and Occupational Health Network and Information Exchange (DENIX) Preservation and Storage of Tooling for MDAPs DoD Reliability, Availability, Maintainability and Cost Rationale Report (RAM-C) Manual HSI Handbook Para 3 DoD Product Support BCA Guidebook	Materiel Solution Analysis Technical Maturation Risk Reduction Engineering & Manufacturing Development Production & Deployment Operations & Support

| | DoD Operating and Support Cost-Estimating Guide (dated Feb 2016) | |
| | **Sample Documents:**
Risk Management Plan Sample | |

EXIT CRITERIA:
Approved Integrated Risk Assessment, POE or other cost estimate as described in AFI 63-101/20-101 Integrated Life Cycle Management Documentation of the source data for the POE product support elements

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
1.6.1	Consider Application of Modeling, Simulation and Analysis (MS&A) Tools	Initial Technical Review (ITR) Alternative System Review (ASR) System Requirements Review (SRR) System Functional Review (SFR) Preliminary Design Review (PDR) Critical Design Review (CDR) Post PDR Assessment Test Readiness Review (TRR) Operational Test Readiness Review (OTRR) System Verification Review (SVR) Production Readiness Review (PRR) Full Rate Production/Deployment Review (FRPDR)

DESCRIPTION:

Each program is required to develop an Modeling and Simulation (M&S) strategy (unless it receives a waiver) to be included in their Acquisition Plan or Single Acquisition Management Plan which illustrates how the use of models and simulations will benefit the program. The strategy is framed around development of a Distributed Product Description (DPD) in an integrated manner across three dimensions:
1. The M&S hierarchy of campaign, mission, engagement, and engineering models
2. The contextual domain of models including requirements definition, design, cost, performance, military worth, sustainability, Test and Evaluation (T&E), and
3. The life-cycle of the system from early requirements planning stages through acquisition, evaluation, fielding, sustainment, and disposal.

Additional types of analyses include: operational combat effectiveness, survivability, virtual, vulnerability, supportability, IOT&E, and live fire test and evaluation (LFT&E). These types of analyses cover the entire life cycle of a system and need to adequately address all of the product support elements. Modeling and Simulation should include the human. MS&A can assist the logistician in accomplishing their primary goals and objectives of:
1. Influence product design for affordable system operational effectiveness
2. Design and develop the support system utilizing Performance Based Logistics
3. Acquire and concurrently deploy the supportable system
4. Maintain/improve readiness, improve affordability, and minimize logistics footprint.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
The logistician should be prepared to assist the PM in the following type tasks: 1. Identify the Key Performance Parameters (KPPs) and other measures that indicate system effectiveness and system availability a. System Availability includes Reliability, Maintainability and Supportability (RMS). Inherent within these, usability and accessibility of the equipment and software should be considered. b. Product Support Package (includes requirements for the 12 product support elements: Supply Support, Maintenance Planning and Management, Support Equipment/Automatic Test Systems, Tech Data Management / Technical Orders, Manpower and Personnel, Training, Facilities, PHS&T, Design Interface, Computer Resources, Sustaining/Systems Engineering and Protection of Critical Program Information and Anti-Tamper Provisions	DoDD 5000.59 DoD Acquisition Modeling and Simulation Master Plan AFPD 16-10 Modeling and Simulation, Attachment 3 - Modeling and Simulation Thrusts AFI 16-1001 Verification, Validation and Accreditation AFI 63-101/20-101 Integrated Life Cycle Management AFI 16-1003 Air Force Standard Analysis Tool Kit (AFSAT)	All

c. Logistics assessments for monthly, quarterly, annual reports (MAR, DAES, SAR) 2. Identify the available models and simulations for use and reuse from the Air Force Standard Analysis Tool Kit (AFSAT) (AFI 16-1003) 3. Advocate the use of M&S to address HSI considerations in alternative solutions (particularly valuable in addressing manpower impacts) 4. Ensure M&S tools used or developed have been approved through the VV&A process (AFI 16-1001) 5. Provide support to develop and execute program M&S strategy. Consider data requirements availability and pedigree. 6. Assist in updating M&S strategy prior to each milestone review 7. Assist PMs in identifying valid resources to meet their M&S requirements and coordinate these requirements with the appropriate OPR 8. Develop a process to collect and prioritize acquisition-related M&S requirements (DPDs, threat models, data and environments) from across the Air Force and identify key DPDs and other common-use M&S related products developed by acquisition programs that will be retained for re-use 9. Develop guidelines and procedures governing the release of Program Office-owned or managed DPDs consistent with current Air Force policy 10. Provide M&S requirements both logistics and Intelligence perspectives (DPDs, threat models, data and environments) not in ORD to the AFMC-designated office collecting these requirements 11. Develop and be responsible for configuration control of current DPDs and other M&S products required to support program office acquisition activities 12. Coordinate with the AFMC MSRR Resource Coordinator and Air Force Agency for Modeling and Simulation (AFAMS) to ensure applicable information from the program's M&S strategy and DPDs are linked to the AF MSRR 13. Coordinate with the Air Force Operational Test and Evaluation Center (AFOTEC) to ensure program use of M&S is consistent between the program office and the operational testers Note: Modeling and Simulation is valuable in addressing manpower impacts and considerations	CJCSI 3312.01A Joint Military Intelligence Requirements Certification AFI 14-111 Intelligence Support to the Acquisition Life Cycle Defense Acquisition Guidebook DoDI 5200.39: Critical Program Information (CPI) Identification and Protection Within Research, Development, and Acquisition (RDA) Programs AFPAM 63-113: Program Protection Planning for Life Cycle Management	

EXIT CRITERIA:

Initial Technical Review (ITR)
Alternative System Review (ASR)
System Requirements Review (SRR)
System Functional Review (SFR)
Preliminary Design Review (PDR)
Critical Design Review (CDR)
Post –CDR Assessment
Test Readiness Review (TRR)
Operational Test Readiness Review (OTRR)
System Verification Review (SVR)
Production Readiness Review (PRR)

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TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
1.7	Analysis of Alternatives (AoA) Plan	Joint Operations Concepts Materiel Development Decision (MDD) Initial Capabilities Document (ICD) AoA Study Guidance RSR results Capabilities Based Analysis

DESCRIPTION:

The AoA plan is approved by the Milestone Decision Authority in conjunction with the Material Development Decision. AoA is an evaluation of the performance, operational effectiveness, operational suitability, and estimated costs of alternative systems to meet a mission capability. The analysis assesses the advantages and disadvantages of alternatives being considered to satisfy capabilities, including the sensitivity of each alternative to possible changes in key assumptions or variables.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Ensure a logistician is involved on the team that provides input to the Analysis of Alternatives (AoA) Plan 2. Interpret User Needs 3. Analyze Operational Capabilities, Capability Gaps, Energy Efficiency, Alternate Fuels considerations, Facilities/Infrastructure (Fuel Storage), Cost, Performance, the major hazards associated with each alternative, and Environmental Constraints. 4. Analyze Threat and Operational Environment (For Intelligence Reference Appendix A, Checklist 1.1) 5. Summarize results of the analysis • Include alternative operating and system support concepts with specific consideration of performance-based options • Consider the physical and operational maintenance environment of the proposed system • Identify human interfaces that drive any critical operational and sustainment concepts / issues Notes: – Data collected and analyzed during AoA can be very useful for performing a Product Support BCA. – Life cycle related data in all program deliverables must be updated during subsequent phases, especially prior to milestone decisions. – Logisticians should ensure product support is addressed. Product Support includes: Technical Data Management/Technical Orders,	CJCSI 3170.01I , Joint Capabilities Integration and Development System (JCIDS) Defines JCIDS process. Type "Supportability" in Edit, Find and Find Next to understand the support role in process. Defense Acquisition Guidebook Designing and Assessing Supportability in DoD Weapon Systems (A Guide to Increased Reliability and Reduced Logistics Footprint) Entire document useful in building your plan AFI 63-101/20-101 Integrated Life Cycle Management AFI 10-601 Capabilities Based Requirements Development Document This document supports the JCIDS process MIL-HDBK-502 Product Support Analysis DoD Reliability, Availability, Maintainability and Cost Rationale Report (RAM-C) Manual Office of Aerospace Studies AoA Handbook Office of Aerospace Studies Pre-MDD Guide DoD LA Guidebook CJCSI 3312.01A Joint Military Intelligence Requirements Certification AFI 14-111 Intelligence Support to the Acquisition Life Cycle AFPAM 23-221, Fuels Logistic Planning AFI 23-201 Fuels Management ELFPMIL-HDBK-46855A Human Engineering Program Processes and Procedures Para 4.1.1.1 HSI Acquisition Phase Guide DoD Product Support BCA Guidebook	Materiel Solution Analysis

Training, Support Equipment / Automatic Test Systems, Packaging, Handling, Storage and Transportation, Supply Support, Facilities, Computer Resources, Design Interface, Maintenance Planning and Management, Sustaining/Systems Engineering, Protection of Critical Program Information and Anti-Tamper Provisions and Manpower and Personnel.	DoDI 5200.39: Critical Program Information (CPI) Identification and Protection Within Research, Development, and Acquisition (RDA) Programs	
– A Preliminary Hazard List (PHL) should be developed for each concept solution and considered in developing the Analysis of Alternatives	AFPAM 63-113: Program Protection Planning for Life Cycle Management	
Note: Review the Enterprise Logistics Flight Plan (ELFP) for compliance with architecture	**Sample Documents:** ICD Summary AOA Study Plan	
Note: Human interfaces include interfaces between human, hardware and software		

EXIT CRITERIA:

Analysis of Alternatives (AoA) Plan
Initial Capabilities Document (ICD)

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
1.14	Develop Technical Maturation Risk Reduction to Include Product Support	Supportability Objectives Initial Capabilities Document (ICD) Analysis of Alternatives (AoA)

DESCRIPTION:

The Technical Maturation Risk Reduction (TMRR) documents the rationale for adopting a single-step-to-full-capability strategy. The TMRR shall include a preliminary description of how the program will be divided into technology domains to include number of prototype units that may be produced and deployed during technology maturation. The TMRR will also define the support, specific performance goals, and exit criteria. Upon approval of the TMRR and selection of an initial concept, the project will enter the Technical Maturation Risk Reduction phase at MS A. The TMRR is approved by the MDA at Milestone A for all potential acquisition programs. Per DoDI 5000.02 Enclosure 4, Table 3, a TMRR is required for all acquisition programs. The purpose of this phase is to reduce technology risk and to determine the appropriate set of technologies to be integrated into a full system. It should include an assessment of the ability to interface the technology with the end users, maintainers and support personnel (human readiness for the technology)

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
The logistician should consider the following key logistics criteria: 1. Forecast the physical and operational maintenance environment of the proposed system 2. Given the forecasted environment from a logistics and Intelligence perspective, assess the functional characteristics of the proposed system, its complexity, and the obstacles and enablers to effective sustainment in that environment (Reference Appendix A, Checklist 1.1) 3. Assess the impact of the proposed system on the maintenance capabilities planned for the period in which the system will be introduced, including facilities/infrastructure requirements 4. Assess preliminary manpower and personnel requirements and constraints in both quantity and skill levels, and use of contractor support. Include within this assessment any unique human interface requirements to facilitate the effective use of the technology. 5. Begin compilation of information and requirements for logistics footprint reductions, deployment requirements, and other factors affecting the in-theater operational concept 6. Initiate the development of operating and support reliability objectives and their corresponding benefits and resource requirements; consider the performance histories of prior systems or systems of similar capability where feasible 7. Assess the concept and technology with regard to their ability to facilitate the use of embedded diagnostics, prognostics, and similar maintenance enablers. Ref 1.03.1 8. Ensure a description of the approach that will be used to ensure data assets will be made visible, accessible, and understandable to any potential user as early as possible is included (intellectual property (IP) strategy (IPS))	DoDI 5000.02 Operation of the Defense Acquisition System DoD PSM Guidebook AFI 63-101/20-101 Integrated Life Cycle Management Weapon System Acquisition Reform Act Defense Acquisition Guidebook Chapter 2.2 Technology Program Management Model v2 DoD Technology Readiness Assessment (TRA) Deskbook Appendix F CJCSI 3312.01A Joint Military Intelligence Requirements Certification AFI 14-111 Intelligence Support to the Acquisition Life Cycle DoD Reliability, Availability, Maintainability and Cost Rationale Report (RAM-C) Manual DoD Guide for Achieving Reliability, Availability, and Maintainability	Materiel Solution Analysis

9. Initiate the compilation and assessment of data on the projected sustainment demand, standardization of platforms, and required support equipment 10. Appropriate Logistics costs captured in Life Cycle Cost Estimates. Develop Rough Order of Magnitude Life Cycle Cost estimates 11. Assess the Intellectual Property (IP) Strategy (IPS) with regard to technical data required. Note: Requirements for content of the TMRR are found in DoDI 5000.02, 5.C (7), which specifically calls out a list of known or probable critical program information and potential countermeasures such as anti-tamper in the preferred system concept and in the critical technologies and competitive prototypes to inform program protection and design integration during the technical maturation risk reduction phase. The TMRR also must include an RAM strategy per DoDI 5000.02, 5.D. (5). Note: Review the Enterprise Logistics Flight Plan (ELFP) for compliance with architecture	DoDI 5200.39 Critical Program Information (CPI) Protection Within the Department of Defense ELFPHSI Acquisition Phase Guide Product Data Acquisition Guidance **Sample Documents:** ICD Summary AOA Study Plan Risk Management Plan Sample	

EXIT CRITERIA:
Approved Technical Maturation Risk Reduction (TMRR) Identification of Key Performance Parameters (KPPs) and/or Key Systems Attributes (KSAs) Market Research for product support capabilities Risk Management Plan (document initial support related risk and risk mitigation planning)

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
2.3	Define Supportability Objectives	Capabilities Based Analysis AoA Study Guidance Acquisition Decision Memorandum(s) (ADM) Joint Capabilities Document (JCD) Initial Capabilities Document (ICD) Capability Required and Operational Concept Key Performance Parameters (KPPs) Target Audience Description (TAD)

DESCRIPTION:

The supportability objectives checklist provides guidance to define the supportability analysis for the program. The supportability analysis is an analytical tool, conducted as part of the systems engineering process to determine the most cost-effectively support of the system over its entire life cycle. It provides the basis for related design requirements to include Technical Orders (TO) s, Support Equipment (SE), Packaging, Handling, Storage and Transportation (PHS&T), Reliability, Availability, Maintainability (RAM), and Cost, System Life cycle Integrity Management (SLIM), Production, Interoperability and Maintenance Concept that may be included in specifications.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Ensure a logistician is involved on the team that develops the Systems Engineering Plan 2. Interpret User Needs including Human Systems Integration (HSI) implications, constraints, and issues and develop strategy for addressing. For additional assistance contact your MAJCOM HSI cell or 711 HPW/HP 3. Consider TOs, SE and PHS&T, Reliability, Availability, Maintainability (RAM), Cost, SLIM; reference task 1.03.1, Production, Facilities/Infrastructure, Interoperability, Supply Support, Item Unique Identification (IUID) and Maintenance Concept that may be included in specifications. 4. Ensure consistency with Air Force Logistics Enterprise Architecture (AFLMA) 5. Analyze Operational Capabilities and Constraints 6. Develop Concept Performance (and Constraints) Definition and Verification Objectives 7. Decompose Concept Functional Definition into Component Concepts and Assessment Objectives	CJCSI 3170.01I Joint Capabilities Integration and Development System. Systems Engineering Plan (SEP) Outline HSI Acquisition Phase Guide Defense Acquisition Guidebook (See Chapters 2, 4, and 6) DoD 4140.1-M DoD Supply Chain Materiel Management DoDI 5000.02 Operation of the	Materiel Solution Analysis

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8. Develop Component Concepts, including commonality 9. Ensure Intelligence supportability analysis is conducted 10. Ensure program protection process is accomplished Note: Review the Enterprise Logistics Flight Plan (ELFP) for compliance with architecture	Defense Acquisition System DoD PSM Guidebook Weapon System Acquisition Reform Act Designing and Assessing Supportability in DoD Weapon Systems (A Guide to Increased Reliability and Reduced Logistics Footprint) (See Chapter 3, but peruse entire document for further information) AFI 63-101/20-101 Integrated Life Cycle Management AFI 10-601 Capabilities Based Requirements Development Document This document supports the JCIDS process MIL-HDBK-502 Product Support Analysis AFI 14-111 Intelligence Support to the Acquisition Life Cycle CJCSI 3312.01A Joint Military Intelligence Requirements Certification DoDD 5200.39 Critical Program Information (CPI) Protection Within the Department of Defense AFPAM 63-113 Program Protection Planning for Life Cycle Management - Entire document	

	Target Audience Description Guide	
	AFI 32-1021 Planning and Programming Military Construction (MILCON) Projects	
	AFI 32-1032 Planning and Programming Appropriated Funded Maintenance , Repair and Construction Projects	
	ELFPDoDI 8320.04 Item Unique Identification (IUID) Standards for Tangible Personal Property	
	DoD Reliability, Availability, Maintainability and Cost Rationale Report (RAM-C) Manual	
	Sample Documents: SEP Document Summary ICD Summary	
EXIT CRITERIA:		
Systems Engineering Plan (SEP)		

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
2.3.1	Implement System Life cycle Integrity Management (SLIM) Processes and Programs (i.e. Weapon System Integrity Programs (WSIP), Condition Based Maintenance Plus (CBM+), Reliability Centered Maintenance (RCM))	Capability Review and Risk Assessment (CRRA) Initial Capability Document Capability Development Document Capability Production Document Systems Engineering Plan Life Cycle Sustainment Plan Functional Baseline Program Protection Plan

DESCRIPTION:

SLIM is the integration of Weapon System Integrity Programs (WSIP), Condition Based Maintenance (CBM+); Reliability, Availability and Maintainability (RAM); Reliability Centered Maintenance (RCM), Maintenance Steering Group 3 (MSG-3), Aircraft Information Program (AIP), and Military Flight Operations Quality Assurance (MFOQA). SLIM is focused on implementing standardized processes and tools associated with improving, monitoring and assessing weapon system performance leading to increased proactive weapon system management and product improvement throughout the system's life cycle.

CBM+ is the application and integration of appropriate processes, technologies and knowledge based capabilities to improve the reliability and maintenance effectiveness of DoD systems and components. At its core, CBM+ is maintenance performed on evidence of need provided by reliability centered maintenance (RCM) analysis and other enabling processes and technologies. CBM+ uses a systems engineering approach to collect data, enable analysis, and support the decision making processes for system acquisition, sustainment and operations.

In conjunction with design interface and related life cycle cost, reliability and maintainability design activities optimize maintenance plans using prognostics and diagnostics technologies in conjunction with Reliability Centered Maintenance (RCM) efforts in the context of OSD defined CBM+. The objective is to minimize maintenance time and expenses balanced against acquisition and production costs and life cycle sustainment costs. CBM+ is performed in conjunction with supportability analysis and related system engineering for reliability, maintainability and sustainment, and is one of the OSD Enabling Techniques for life cycle logistics. Prognostics and diagnostics include engineering studies to optimize application of built in test, condition monitoring, operating environment recording and develop detailed knowledge of the relationship between how the equipment is used and how it approaches situations where fault tolerance is degraded and preventive maintenance tasks are needed. Prognostics done in conjunction with more traditional maintenance task analyses including RCM will permit minimum life cycle costs while maximizing equipment readiness. RCM is a process where the failure modes and effects (FMEA) are analyzed to develop scheduled preventive maintenance tasks to assure the system is safely maintained to perform the mission as well as justified increased reliability performance. CBM+ seeks to lengthen the period between scheduled maintenance tasks while assuring safe and economical operation. All maintainability analyses provide opportunities to justify either maintenance tasks or improved reliability.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Develop supportability requirements in the system functional baseline. Interact with the lead command to determine maintenance concepts, manpower and skills limits, and maintenance burden per unit of operation, built in test objectives, support equipment criteria and related maintainability requirements. 2. Plan to maximize the use of digital flight data recorders and on-aircraft sensors to automate data collection for: maintenance data, usage data, failure data, parts replacement data, detailed crack data, etc. Ensure there is a product support business case (cost, weight, downtime, etc.) to support the use of on-aircraft sensors.	AF SLIM Guide DoD CBM+ Guidebook AFMCI 21-103 Reliability Centered Maintenance DoD RAM Guide DoD Reliability, Availability, Maintainability and Cost Rationale Report (RAM-C) Manual	Material Solution Analysis Technical Maturation Risk Reduction Engineering & Manufacturing Development

3. Coordinate the development of diagnostic and prognostic algorithms to facilitate performance monitoring of the weapon system. Monitor design progress for opportunities to implement diagnostics, prognostics and continuous process improvement activities. 4. Assure the requirements are clearly reflected in the system functional baseline and that they are feasible and a test/verification process is planned and resources assigned to verify maintainability achievement. Gray beard lesson learned: equipment built in test languages need to be compatible with Automated Test Equipment and calibration standards used by the USAF. (See Checklist 3.37.4) 5. Manage the development of a maintainability and reliability growth program. These programs will be maintained and updated throughout the system's life cycle 6. Monitor the execution of system and sub-system Failure Modes and Effects and Criticality Analysis (FMECA) IAW MIL-STD-1692 and MIL-STD-1843. 7. Assure feedback to justify reliability, maintainability and testability design features are applied to the development of item development specifications. Analyze support resource impacts of reliability, maintainability and testability design performance. 8. Coordinate reliability, maintainability and supportability data formats and recording systems with the Product Life Cycle Management activity within the program management office. Prepare to deliver logistics management information using GEIA-STD-0007B. 9. Perform RCM analysis. Determine minimized Total Ownership Cost maintenance tasks for scheduled and preventive maintenance tasks. 10. Understand system risks related to maintenance activities and justify preventive and scheduled maintenance based on safety, performance and costs. Use required skills, man hours, spares, support equipment, fault isolation processes and related resources estimates required to achieve equipment readiness requirements in both FMEA and RCM evaluations. Retain estimates for use in identifying maintenance task requirements and developing maintenance plans. 11. For maintenance tasks that require time change, determine if the maintenance task could be improved in terms of ownership costs and equipment readiness, if prognostics and diagnostics is applied to reduce maintenance and spare part costs. 12. Document detailed maintenance tasks and required skills, man hours, spares, support equipment, fault isolation processes and related resources required to achieve equipment readiness requirements. Insure this data is available as source data for technical manuals development. 13. Perform level of repair analysis, using resource and frequency data developed from maintenance task analysis performed using RCM analysis data determine life cycle maintenance assignment of repair tasks to depots. Retain level of repair analysis report to support depot activation budgets and source of repair assignment (SORAP).	MIL-HDBK-515 Weapon System Integrity Guide (WSIG) MIL-STD-1530C Aircraft Structural Integrity Program (ASIP) AFI 63-140 Aircraft Structural Integrity Program (ASIP) MIL-STD-3024 Propulsion System Integrity Program (PSIP) MIL-STD-1798 Mechanical Equipment and Subsystems Integrity Program (MECSIP) MIL-HDBK-87244 Avionics/Electronics integrity Program (AVIP) Cancelled, Best Practice AFPD 63-1/20-1 Integrated Life Cycle Management AFI 90-1301 Implementing Military Flight Operations Quality Assurance (MFOQA) MIL-HDBK-470A DoD Handbook - Designing and Developing Maintainable Products and Systems VOL I MIL-STD-1629 Failure Modes, Effects and Criticality Analysis Cancelled, Best Practice GEIA-STD-0007 B Logistics Product Data AFI 63-101/20-101 Integrated Life Cycle Management DoDI 4151.22 CBM+ for Materiel Maintenance DoDI 5000.02 Operation of the Defense Acquisition System DoD PSM Guidebook	

14. Monitor the Failure reporting and Corrective Action System (FRACAS), the Test Analyze and Fix (TAAF) and maintenance demonstration process for achieving system performance. 15. Participate in validation of maintenance activities and modeling and simulation of effects of achieved reliability and maintainability requirements. Models should include Finite Element Models (FEM), and 3-D Computer aided design (CAD)/Computer aided manufacturing (CAM) models to support Integrity Programs and the Maintainability and Reliability Growth Programs. 16. Coordinate in the development of prognostics and predictive maintenance support and deliver trade and engineering studies to the sustaining engineering function for future applications of maintenance and reliability improvement programs. 17. Monitor Design Test and Evaluation for reliability and maintainability performance. 18. Support System Level Logistics Demonstrations. 19. Analyze results of System Level Logistics Demonstrations against requirements. Certify system ready for Operational Test and Evaluation (OT&E). 20. Assure that Item Unique Identification is applied to appropriate supply items to assist in life cycle management of individual spare parts and aid in capturing time and usage related data.	Weapon System Acquisition Reform Act Defense Acquisition Guidebook CJCSI 3170.01I Joint Capabilities Integration and Development SystemDoDD 4151.18 Sustainment Life Cycle Management DoDD 5134.01 (USD(AT&L)) Product Data Acquisition Guidance **Sample Documents:** ICD Summary CARD Summary LCSP Sample SEP Summary	
EXIT CRITERIA:		
Life Cycle Sustainment Plan Systems Engineering Plan System Specification Allocated Baselines Functional Configuration Audit		

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
2.9.1	Address Environment, Safety, and Occupational Health (ESOH) risk management considerations	Initial Capabilities Document (ICD) Systems Engineering Plan (SEP) Analysis of Alternatives (AoA) Draft Capabilities Development Document (CDD) Draft Capabilities Production Document (CPD) Site Survey Other Program Documentation as it becomes available

DESCRIPTION:

This task includes the planning required for compliance and influencing the design process to optimize ESOH. Participate in program activities ensuring ESOH risks, such as mishap hazards, hazardous materials/waste, noise (ambient and occupational), air quality, water resources and occupational health, are identified and addressed. Identify any tradeoffs, including tradeoffs among HSI domains that may be driven by ESOH risks or vice versa.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Materiel Solution Analysis phase: a. Provide ESOH characteristics as part of the capability definition b. Participate in AoA development c. Provide the following exit criteria: i. Preliminary Hazards List (PHL) for each concept ii. Strategy for integrating ESOH risk management into the SEP d. Identify potential ESOH operations and maintenance requirements, and identify emerging ESOH technologies and hazards 2. Technology Maturation Risk ReductionPhase: a. Develop ESOH requirements and the associated performance criteria b. Identify ESOH constraints and performance attributes and characterize ESOH risks for AoA development c. Fully integrate ESOH-related planning and design considerations and entry/exit criteria for the technical reviews into the SEP. d. Develop Programmatic Environment, Safety, and Occupational Health Evaluation (PESHE) to include: preliminary ESOH risks (mishap hazards and hazardous material (HAZMAT)), the strategy for integrating into SE, ESOH responsibilities method for tracking hazards and the National Environmental Policy Act/Executive Order (EO) 12114 Compliance Schedule. e. Incorporate ESOH hazard risk mitigation test and verification methodologies, and work towards obtaining safety release(s) and ESOH risk acceptance f. Initiate Safety Requirements/Criteria Analysis (SRCA), update PHL and develop Preliminary Hazard Analysis (PHA) and Threat Hazard Analysis (THA) for preferred concept. Identify	DoDI 5000.02 Operation of the Defense Acquisition System Enclosure 6 DoD PSM Guidebook Weapon System Acquisition Reform Act DoD ESOH in Acquisition Guide AFI 32-7086 Hazardous Material Management AFI 32-7042 Waste Management MIL-STD 882E Standard Practice for System Safety DoDD 4715.1E Environment, Safety, and Occupational Health (ESOH) CJCSI 3170.01I Operation of the Joint Capabilities Integration and Development System AFI 32-7061, Environmental Impact Analysis Process AFI 32-7063, Air Installation Compatibility Use Zone	Materiel Solution Analysis Technical Maturation Risk Reduction Engineering & Manufacturing Development Production and Deployment Operations & Support

system safety hazard analysis requirements for the EMD phase.
g. Update ESOH risk mitigation technology readiness levels
h. Provide preliminary ESOH requirements for system support and to include both organizational and depotmaintenance
i. Follow waiver procedures in AFI 32-7086 Chapter 4 if Class I ozone depleting substances are required and satisfy DFARS Subpart 223.73, *Minimizing the Use of Materials Containing Hexavalent Chromium*, if hexavalent chromium use is expected
3. Engineering and Manufacturing Development, Integrated System Design
  a. Prepare relevant hazard analyses such as SSHAs, SHA, HHA and OSHA, and update the SRCA
  b. Update ESOH criteria for component, subsystem, and system to include test and inspection requirements
  c. Include ESOH updates to HSI planning (part of SEP or separate HSI plan)
  d. Work with the testing community and users to identify ESOH compliance requirements that will apply to the fielded system to assess and address compliance risk and cost.
  e. Begin to identify ESOH input for organic depot transition requirements
  f. Begin to identify ESOH input for demilitarization and disposal planning
  g. Include system ESOH-critical processes and components in inspection plan (e.g.,, component screening and testing)
  h. Ensure system ESOH-critical design specifications are included in the requirements tracking system and detailed design specifications, as necessary
  i. Assess hazard analyses, HAZMAT reports and compliance requirement risks to facilitate the development of mitigations to reduce risks to acceptable levels
  j. Integrate ESOH considerations into sustainment planning documents and sustainment contract solicitation documents
  k. Follow waiver procedures in AFI 32-7086 Chapter 4 if ozone depleting substances are required and satisfy DFARS Subpart 223.73, Minimizing the Use of Materials Containing Hexavalent Chromium, if hexavalent chromium use is expected
4. Engineering and Manufacturing Development – System Capability and Manufacturing Process Demonstration phase
  a. Verify that mitigation measures reduce ESOH hazard risk to acceptable levels
  b. Review the results of hazard analyses such as the SSHA, FMECA, FMEA, Health hazard Assessment, and preliminary OSHA supportability impacts
	DoD LA Guidebook
	
	HSI Acquisition Phase Guide
	
	AFI 63-101/20-101 Integrated Life Cycle Management
	
	AFPAM 63-128 Integrated Life Cycle Management
	
	AFI 91-202, The US Air Force Mishap Prevention Program	

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     c. Update the PESHE to include identified ESOH risks (including mishap and HAZMAT risks), the strategy for integrating into SE, ESOH responsibilities, method for tracking hazards, and NEPA/EO 12114 Compliance Schedule

     d. Provide safety releases to the testing community

     e. Recommend operational and maintenance ESOH training and staffing requirements

     f. Follow waiver procedures in AFI 32-7086 Chapter 4 if ozone depleting substances are required and satisfy DFARS Subpart 223.73, *Minimizing the Use of Materials Containing Hexavalent Chromium*, if hexavalent chromium use is expected

     g. Review DT&E results for ESOH implications

5. Production and Deployment phase:

     a. Review IOT&E results for the effectiveness of ESOH risk mitigation measures

     b. Ensure that the PESHE includes identified ESOH risks, the strategy for integrating into SE, ESOH responsibilities and method for tracking hazards

     c. Update ESOH strategies, requirements and risks in programmatic documents

     d. Provide ESOH updates to HSI planning (part of SEP or separate HSI plan)

     e. Finalize the hazard analyses such as the OSHA

     f. Follow waiver procedures in AFI 32-7086 Chapter 4 if ozone depleting substances are required and satisfy DFARS Subpart 223.73, *Minimizing the Use of Materials Containing Hexavalent Chromium*, if hexavalent chromium use is expected

     g. Ensure sustainment organizations receive copy of PESHE in support of depot and sustainment transitioning

6. Operations and Support phase:

     a. Review FOT&E results for ESOH implications

     b. Continually review for ESOH hazards including mishaps and discrepancy reports

     c. Continually review hazardous material usage for opportunities to reduce ESOH risks and costs

         i. Review industry best practices

         ii. Identify and address post production pollution prevention needs or projects

     d. Ensure that the PESHE includes identified ESOH hazard/risks, the strategy for integrating into SE, ESOH responsibilities, method for tracking hazards and NEPA/EO 12114 Compliance Schedule and changes coordinated with sustainment organizations

     e. Provide updated inputs to HSI planning (part of SEP or separate HSI plan)

     f. Provide updated inputs for demilitarization and disposal planning

     g. Sustain ESOH hazard analyses to support the fielded system and acquisition of similar systems, as applicable

h. Follow waiver procedures in AFI 32-7086 Chapter 4 if ozone depleting substances are required and satisfy DFARS Subpart 223.73, *Minimizing the Use of Materials Containing Hexavalent Chromium*, if hexavalent chromium use is expected when responding to minor modifications, deficiency reports, Engineering Change Proposals, etc.		
EXIT CRITERIA:		
Updated PESHE Updated LCSP Updated SEP Updated TEMP Updated CDD Updated CPD Updated Safety Analyses HAZMAT Management Program Report NEPA/EO 12114 Compliance Schedule Updated Risk Mitigation Plan and Hazard Tracking System		

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
2.10	Product Support Capabilities in Preferred System Concept	Analysis of Alternatives Plan Best Material Approach

DESCRIPTION:

Key to this initial step of materiel solution analysis is to ensure that all drivers of the concept definition are completely captured and managed as an integrated whole, and that all of the drivers can be met by each of the concept alternatives under consideration. This defines the expectations of the overall system concept, and defines the trade space and risk associated with each of the constraints, above. Defining the trade space and risk enables the comprehensive analysis of system alternatives, and allows a rational selection of a preferred system concept. The preferred system concept should strike the best balance in providing the needed capabilities within the constraints on the program. These constraints should include Manpower, Personnel and Training considerations to deliver the workforce to operate, support and sustain the system.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE

1. Ensure a logistician is involved on the team that provides input to the Preferred System Concept
 	
2. Interpret User Needs
 	
3. Analyze Operational Capabilities, Capability Gaps, and Environmental Constraints.
 	
4. Analyze Threat and Operational Environment (Reference Appendix A, Checklist 1.1)
 	
5. Summarize results of the analysis
 	
  a. Include alternative operating and system support concepts with specific consideration of performance-based options
 	
  b. Consider the physical and operational maintenance environment of the proposed system
 	
  c. Analyze the Human Systems Integration (HSI) implications of the system concept (inclusive of all the HSI domains) and the associated costs. Assistance for human related issues is available from your MAJCOM HSI cell or 711 HPW/HP
 	
  d. Analyze impacts to Maintenance Concepts
 	
  e. Consider Environment, Safety, and Occupational Health (ESOH) requirements and risks
 	
  f. Consider facilities / infrastructure requirements
 	
Notes:
 	
– Data collected and analyzed during AoA can be very useful for performing a Product Support BCA.
 	
– Life cycle related data in all program deliverables must be updated during
	Defines JCIDS process. Type "Supportability" in Edit, Find and Find Next to understand support role in the process.
	
	CJCSI 3170.01I Joint Capabilities Integration and Development System (JCIDS)
	
	Designing and Assessing Supportability in DoD Weapon Systems (A Guide to Increased Reliability and Reduced Logistics Footprint)
	
	Entire document useful in building your plan
	
	AFI 63-101/20-101 Integrated Life Cycle Management
	
	AFI 10-601 Capabilities Based Requirements Development This document supports the JCIDS process
	
	System Engineering
	
	Chapter 4 Defense Acquisition Guide Book
	
	Defense Acquisition Guidebook (See Chapters 2 , 4, and 6
	
	DoDI 5000.02 Operation of the Defense Acquisition System
	
	DoD PSM Guidebook
	
	DoD Product Support BCA Guidebook
	
	Weapon System Acquisition Reform Act
	
	MIL-HDBK-502 Product Support Analysis
	
	DoD LA Guidebook
	
	CJCSI 3312.01A Joint Military Intelligence Requirements Certification
	
	AFI 14-111 Intelligence Support to the Acquisition Life Cycle
	
	ELFPHSI Acquisition Phase Guide
		Materiel Solution Analysis

subsequent phases, especially prior to milestone decisions.		
– Review the Enterprise Logistics Flight Plan (ELFP) for compliance with architecture		
EXIT CRITERIA:		
Preferred System Concept		

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
2.13	Participate in System Engineering Plan (SEP) Development.	Technical Maturation Risk Reduction (TMRR) Acquisition Strategy Product Support Strategy Analysis of Alternatives Acquisition Program Baseline (APB) Initial Capability Document (ICD) Capability Development Document (CDD) Capability Production Document (CPD) Life Cycle Sustainment Plan (LCSP) Test and Evaluation Master Plan (TEMP) Draft Systems Engineering Plan (SEP)

DESCRIPTION:

The System Engineering Plan (SEP) documents the organizations, authorities, roles and responsibilities, processes, and integration used to plan, evaluate, execute, and manage the technical aspects of a program. The SEP is a living document that must be reviewed annually, and updated as required throughout the life cycle. Program managers should establish the SEP early in program formulation. A best practice is to have the SEP written by the program Systems Engineering Working-level Integration Team. The SEP is a roadmap that defines comprehensive systems engineering activities, addressing both government and contractor technical activities and responsibilities. The SEP should be consistent with and complementary to the Acquisition Strategy and the Test and Evaluation Master Plan, as appropriate. HSI planning shall be summarized in the SEP. The SEP needs to address how systems engineering will support the translation of system capability needs into an effective, suitable product that is (warfighter emphasis) sustainable at an affordable cost. The PSM should review the SEP.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Participate on the Systems Engineering Working-level Integration Team during development of the SEP. 2. Review requirements documents to determine Logistics-related performance parameters that best represent warfighter needs. 3. Given the forecasted physical and operational maintenance environment of the proposed system, assess the functional characteristics of the proposed system, its complexity, and the obstacles and enablers to effective sustainment in that environment. 4. Ensure logistics considerations are addressed and documented in the plan to include: • Reliability, Availability, Maintainability (RAM), Cost, Supportability and Production • Product Support factors • Deployment footprint • Preliminary Manpower and Personnel requirements (quantity and skill levels, and use of contractor support) • Embedded diagnostics, prognostics, and similar maintenance enablers • Reliability & Maintainability (R&M) Program • Reliability Growth Curves (RGCs) • Development & Sustainment of Software • Configuration Management	DoDD 5000.01 The Defense Acquisition System Enclosure 1, Para 1.27 DoDI 5000.02 Operation of the Defense Acquisition System Enclosure 12 DoD PSM Guidebook Weapon System Acquisition Reform Act Defense Acquisition Guidebook Chapters 4 and 6 AFI 63-101/20-101 Integrated Life Cycle Management Early Systems Engineering Guide Systems Engineering Plan (SEP) Outline SEP Frequently Asked Questions	Materiel Solution Analysis Technical Maturation Risk Reduction Engineering & Manufacturing Development Production and Deployment Operations & Support

• Corrosion Prevention and Control • Item Unique Identification (IUID) 5. Ensure the HSI process is used to generate a robust plan that considers all human-related domains in an integrated manner. It must be addressed throughout the life cycle, and must be consistently integrated into SE implementation to balance total system performance (hardware, software, and human), OSS&E assurance, survivability, safety, and affordability. HSI employs human factors engineering to design systems that effectively utilize manpower; provide effective training; can be operated and maintained by users; and are suitable (habitable and safe with minimal environmental and occupational health hazards) and survivable (for both people and equipment). 6. Review the SEP annually and update as required throughout the life cycle	DoD Technology Readiness Assessment (TRA) Deskbook Appendix F Designing and Assessing Supportability in DoD Weapon Systems DoD Reliability, Availability, Maintainability and Cost Rationale Report (RAM-C) Manual DoD Guide for Achieving Reliability, Availability, and Maintainability HSI Handbook App 1 **Sample Documents:** ICD Summary SEP Summary TEMP Sample LCSP Sample

EXIT CRITERIA:
Systems Engineering Plan Input to Acquisition Strategy Input to Request for Proposal (RFP) Input to Program Documentation

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
2.13.1	Address Human Systems Integration (HSI)	As appropriate for acquisition phase: Capabilities Based Assessment (CBA) Concept Characterization Technical Document (CCTD) Materiel Development Decision (MDD) AoA Study Guidance Draft Maintenance Concept Initial Capability Document (ICD) Capability Development Document (CDD) Capability Production Document (CPD) Life Cycle Sustainment Plan (LCSP) Analysis of Alternatives (AoA) Systems Engineering Plan (SEP)

DESCRIPTION:

Human Systems Integration (HSI) is a process to ensure systems are designed and developed that effectively and affordably integrate with human capabilities and limitations. The HSI process considers human factors engineering, manpower, personnel, training, and Environment, Safety, and Occupational Health (ESOH) aspects along with survivability and habitability, throughout system design, development, fielding, and sustainment. The aim of this checklist is to ensure the consideration of HSI early and throughout the acquisition process in order to maximize system capability while minimizing life cycle costs and the logistics footprint. The HSI process gives logisticians a voice in the systems engineering process.

HSI is a continuous process which is applied iteratively. The objective of the HSI process is to fully consider the human in the design and engineering of a system, in such a way as to maximize total system performance (human + hardware + software) and minimize total ownership cost. HSI provides valuable input to decisions made at the earliest stages such as CBA and AoA, and contributes to risk management throughout system lifetime, to include modifications, upgrades.

A good set of general questions to guide the HSI process is found in the HSI Requirements Pocket Guide. Consider these questions as a starting place for any HSI activity. For HSI expertise and assistance at any phase call your MAJCOM HSI cell or 711 HPW/HP.

As a logistician, you may be called upon to represent the input of maintainers and other support personnel who may have system requirements. You may also be a source of expertise for early manpower determinations and early cost estimates.

Note: Review the Enterprise Logistics Flight Plan (ELFP) for compliance with architecture – creation of Operational View document may be required.

Note: See DoD Education and Training Opportunities HSI for list of available HSI training courses.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
Pre-Materiel Solution Analysis Phase: 1. HSI considerations should be included in CBA, AoA, and ICD. 2. Use experience from similar fielded systems when possible to predict HSI issues and incorporate lessons learned. Support modeling, simulation and analysis, see task 1.6.1. 3. Provide inputs to CBA by identifying human-centered deficiencies and HSI-related capability gaps, and assess approaches to solving/mitigating those deficiencies/gaps. 4. HSI analyses conducted for CBA need to be captured in ICD and AoA study guidance.	CJCSI 3170.01I Joint Capabilities Integration and Development System (JCIDS) HSI Acquisition Phase Guide HSI Requirements Pocket Guide HSI Handbook HSI Guide for Contracts	Pre-Materiel Solution Analysis

5. When writing or reviewing requirements, consider how performance parameters and attributes should include HSI input. Use the HSI Requirements Pocket Guide to help users express requirements for usability, accessibility, displays and controls suited to the user and the task, and many other human-related issues. 6. Participate in High Performance Teams (HPT) (precursors to IPTs). Materiel Solution Analysis Phase: 1. Support IPTs to incorporate a comprehensive set of human centered requirements into the design at the outset. 2. Determine requirements for human performance and each HSI domain using the questions in the HSI Requirements Pocket Guide as a starting place. Look for opportunities to reduce workload and optimize manning, and participate in analyzing related technology requirements. Support modeling, simulation and analysis, see task 1.6.1. 3. Integrate requirements from the ICD into the AoA process 4. Transition HSI-relevant concepts from JCIDS studies and the ICD into the acquisition process. When writing or reviewing requirements, consider how KPPs and other performance parameters and attributes should include HSI input. Use the HSI Requirements Pocket Guide to help users express requirements for usability, accessibility, displays and controls suited to the user and the task, and many other human-related issues. HSI concerns that cannot be expressed in terms of thresholds and objectives can be included in the CDD and CPD in sections 14 and/or 15. 5. Participate in development of TES, SEP, TMRR, LCSP, risk management and Cost/Manpower Estimates. See tasks 1.12 TES, 2.13 SEP, 1.14 TMRR, 2.15 LCSP, 1.22 Risk and 1.4 Cost Estimating. 6. Sustain HSI throughout acquisition processes e.g., RFI/RFP, IMP/IMS. See tasks 2.20 RFP and 2.23 IMP/IMS. 7. Review CONOPS and operational concepts to provide feedback on logistics, maintenance and support. Technical Maturation Risk Reduction Phase 1. Support IPTs to develop a comprehensive design that incorporates human centered requirements and participate in trade-off decisions. 2. Review CONOPS and operational concepts to provide feedback on logistics, maintenance and support. 3. Participate in initial manpower estimate and the supporting manpower analysis. Identify potential personnel issues and determine training	AFI 10-601 Capabilities-Based Requirements Development This document supports the JCIDS process AFI 63-101/20-101, Integrated Life Cycle Management Systems Engineering Plan (SEP) Outline Defense Acquisition Guidebook (See Chapters 3, 4, 5, and 6 DoDI 5000.02 Operation of the Defense Acquisition System DoD PSM Guidebook Weapon System Acquisition Reform Act Designing and Assessing Supportability in DoD Weapon Systems (A Guide to Increased Reliability and Reduced Logistics Footprint) See Chapter 3, but scan entire document for further information AFI 63-131 Modification Management Program AFPAM 63-128 Integrated Life Cycle Management OAS AoA Handbook OAS Pre-MDD Handbook ELFP DoD Education and Training Opportunities HSI Joint Lessons Learned Information System (JLLIS) **Sample Documents:** ICD Summary AOA Study Plan	Materiel Solution Analysis Technical Maturation Risk Reduction

requirements for alternatives. Support modeling, simulation and analysis, see task 1.6.1. 4. Assess ESOH considerations and address PESHE requirements. See tasks 2.9.1 ESOH and 3.10.2 NEPA. 5. Assess survivability and habitability issues 6. Participate in identifying Measures of Suitability (MOS), Measures of Effectiveness (MOE) and Measures of Performance (MOP). 7. Participate in SEP update and technical reviews (e.g., SRR, SFR, and PDR). See tasks 2.20 SEP, 2.35 SRR (concepts) 3.54 SRR (specification), 3.58 SFR and 3.59 PDR. 8. Sustain HSI throughout acquisition processes (Important documents include CDD, MER, LCSP, SEP, TEMP, TRA, RFI/RFP, IMP/IMS, Risk Management Plan, system performance specs, Information Support Plan (1.1), and source selection criteria). For contract and source selection language see the HSI Guide for Contracts. Engineering and Manufacturing Development Phase 1. Support IPTs to develop a comprehensive design that incorporates human centered requirements and participate in trade-off decisions. 2. Participate in updating the manpower estimate 3. Refine training requirements as system design matures and provide input to Training System Plan 4. Refine design concepts for optimizing human performance, especially human interfaces with hardware and software. Consider maintainers and other support personnel in this activity. Support modeling, simulation and analysis, see task 1.6.1. 5. Refine ESOH requirements and provide input to risk assessments. See tasks 2.9.1 ESOH and 3.10.2 NEPA. 6. Participate in developing survivability and habitability concepts 9. Participate in operational assessment of system's ability to meet HSI-related requirements and roll up assessments into the program risk management process. 7. Participate in SEP update and technical reviews (e.g., Post-PDR Assessment, CDR, TRR, SVR, and PRR). See tasks 3.04 Post-PDR, 3.28 SEP, 3.12 CDR, 3.17 TRR, 3.33 SVR/PRR. 8. Sustain HSI throughout acquisition processes. (Important documents for update include CPD, MER LCSP, SEP, TEMP, RFI/RFP, IMP/IMS, Information Support Plan (1.1) and Risk Management Plan). Production and Deployment Phase 1. Assist in assessing total system performance and cost based upon manpower numbers and personnel skill levels 2. Finalize and implement training program	SEP Summary LCSP Sample TEMP Sample LCC Summary	Engineering & Manufacturing Development Production and Deployment

3. Analyze any operational deficiencies in system's ability to meet HSI-related requirements to help determine and assess corrective actions. Include these deficiencies in risk management activities 4. Identify HSI relevant issues and constraints that can be used to provide input into modifications to the system. Participate in iterative improvement. Watch for unintended human impacts due to modification/configuration change. See tasks 3.47.2 DR and 6.56 Mod Mgmt. 5. Provide inputs to appropriate lessons learned repositories 6. Define and implement system safety and health risk management programs 7. Participate in Full Rate Production (FRP) Decision review. 8. Sustain HSI throughout acquisition processes. (Important documents for update include CPD, MER LCSP, SEP, TEMP, and IMP/IMS.) Operations and Support Phase 1. Analyze any operational deficiencies in system's ability to meet HSI-related requirements to help determine and assess corrective actions. Include these deficiencies in risk management activities. 2. Identify HSI relevant issues and constraints that can be used to provide input into modifications to the system. Participate in iterative improvement. Watch for unintended human impacts due to modification/configuration change. See tasks 3.47.2 DR and 6.56 Mod Mgmt. 3. Provide inputs to appropriate lessons learned repositories, include: • Failure analysis • ECP review • In-service reviews • Mishap investigations • Fleet feedback analysis • Upgrade and modification development • Changes in maintenance procedures • Changes in materials • Obsolescence (DMSMS) See task 3.37.13 • Training sufficiency and feedback		Operations & Support

EXIT CRITERIA:

Capabilities Based Assessment (CBA)
Concept Characterization Technical Document (CCTD)
Materiel Development Decision (MDD)
AoA Study Guidance
DOTMLPF Change Requests (DCR)
IMP/IMS
RFI/RFP
Manpower Estimate Report (MER)
Inputs into ECPs, modifications, upgrades, pre-planned product improvements
Inputs into Analysis of Alternatives (AoAs)
Input into Systems Engineering Plan (SEP) (specifically HSI planning)
Input into Maintenance Concept
Inputs into Training Plans

Inputs into Test and Evaluation Master Plan (TEMP)
Input into Initial Capabilities Document (ICD)
Input into Capabilities Development Document (CDD)
Inputs into Capability Production Document (CPD)
Input into Life Cycle Sustainment Plan (LCSP)
Input into Life Cycle Cost (LCC) Estimates

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
2.15	Develop Initial Product Support Strategy in the Life Cycle Sustainment Plan (LCSP)	Joint Capabilities and Development System Analysis Initial Capabilities Document (ICD) Life Cycle Sustainment Plan (LCSP) if available Defined Supportability Objectives Analysis of Alternatives (AoA) Plan Logistics footprint reductions requirements Deployment requirements Target Audience Description (TAD)

DESCRIPTION:

A Life Cycle Sustainment Plan is a comprehensive document that consolidates the weapon system life cycle acquisition management and product support strategies from materiel solution analysis through reclamation/disposal. It is a document that must be maintained to remain compliant with revised/new DoD policy and statutory requirements. It represents a corporate AF position on how to best execute and manage a specific program and requires participation from all program stakeholders in its development and update.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Review AFPAM 63-128 Section 2. Use the given order to organize the information gained from the following steps. 2. Review the Joint Capabilities and Development System analysis for a. Life cycle cost: b. Logistics supportability treated as an operational performance capability that is inherent to systems design and development c. Capabilities based analysis that includes supportability as an inherent part of defining capability needs d. Supportability as a key attribute to be defined, found within the "capabilities based" approach to setting formal warfighter requirements e. Initial establishment of supportability and support-related performance criteria f. Doctrine, Organization, Training, Materiel, Leadership and education, Personnel, and Facilities (DOTMLPF) considerations to include key logistics criteria that will help minimize logistics footprint and reduce cost. Ensure consideration of the proposed target audience (user). This includes the cognitive, physical and sensory abilities i.e., capabilities and limitations of the operators, maintainers, and support personnel that are expected to be in place at the time the system is fielded. g. Energy Efficiency and Alternate Fuels considerations 3. Review the ICD for: a. Product support concept and needed capabilities b. Reductions in logistics footprint and system life cycle costs (inclusive of the people, support equipment and other elements) c. Potential constraints on operating and support resource requirements	AFPAM 63-128 Integrated Life Cycle Management Defense Acquisition Guidebook (Chapters 4 , 5, and 6) DoD Template for Application of TLCSM and PBL In the Weapon System Life Cycle Request for Proposal (RFP) Information Technology and Industrial Base Plans, 10 U.S.C. 2440 Technology Readiness Assessment Deskbook (TRA) Designing and Assessing Supportability in DoD Weapon Systems: A Guide to Increased Reliability and Reduced Logistics Footprint 2003 (3.3) System Operational Effectiveness (SOE) PBL: PM's Product Support Guide (3.0 – 7.0) What is a Systems Engineering Plan What is a Modular Open Systems Approach (MOSA) MOSA during Materiel solution analysis	Materiel Solution Analysis

d. Human Systems Integration implications, constraints and issues
4. Refer to the forecast of the physical and operational maintenance environment of the proposed system. Given the forecast, assess the functional characteristics of the proposed system, its complexity, and the obstacles and enablers to effective sustainment in that environment
5. Begin to document Environment, Safety, and Occupational Health (ESOH) strategies in the Programmatic Environment, Safety, and Occupational Health Evaluations (PESHE) and ESOH design consideration to be addressed in the SEPLCSP
6. Ensure the HSI process is used to support generation of a robust plan that considers all human-related domains in an integrated manner. It must be addressed throughout the life cycle, and must be consistently integrated into SE implementation to balance total system performance (hardware, software, and human), and affordability. Include facilities/infrastructure to encompass both operational and maintenance
7. Influence product design with Life Cycle Logistics (LCL) for affordable System Operational Effectiveness (SOE)
8. Include the evaluation of the Product Support Capabilities
9. Review projected sustainment demand, standardization of platforms and required equipment
10. Identify anticipated sustainment requirements to the Centralized Asset Management (CAM) office (AFMC/A4F Workflow). For AFSPC, ANG and AFRC sustainment requirements also contact the respective organization. If program is within 2-3 years of needing O&M sustainment funding, ensure planning for budget input is accomplished. See Task 5.25
11. Ensure Product Support elements are input into draft Systems Engineering Plan (SEP), encompassing Product Support (PS) Systems Engineering (SE) requirements and Item Unique Identification (IUID)
12. Review the Request for Proposal (RFP) for Systems Engineering (SE) concepts (Limit to objectives and goals identified in the Mission Needs Statement (MNS), constraints, customer objectives/goals and other boundary objectives/goals identified in program direction). Ensure Energy Efficiency and Alternate Fuels considerations are included
13. Review the Best Material Approach and include the preferred Product Support concept
14. Review the Technical Maturation Risk Reduction for Product Support concepts such as
   a. Conceptual impact on national technology or industrial base
   b. Critical Technology Information Protection
   c. Energy Efficiency and Alternate Fuels considerations
   d. Technical data as initially addressed in the Intellectual Property (IP) Strategy (IPS). (The

MIL-HDBK-502 Product Support Analysis

AFI 63-101/20-101 Integrated Life Cycle Management

Independent Cost Estimate: Operational Manpower requirements, 10 U.S.C.2434

DoDI 5000.02 Operation of the Defense Acquisition System (Enclosures 7 and 12)

DoD PSM Guidebook

DoD Product Support BCA Guidebook

Weapon System Acquisition Reform Act

DoDI 8320.04 Item Unique Identification (IUID) Standards for Tangible Personal Property

Systems Engineering Plan (SEP) Outline

DoD LA Guidebook

Target Audience Description Guide

Logistics Requirements Determination Process

Preservation and Storage of Tooling for MDAPs

DoD Reliability, Availability, Maintainability and Cost Rationale Report (RAM-C) Manual

ELFP

HSI Handbook App 1

HSI Requirements Pocket Guide

Product Data Acquisition Guidance

Next Generation CLS Contract Sustainment Support Guide (CSSG)

Life Cycle Sustainment Plan Template
Sample Documents:
ICD Summary
AOA Study Plan
SEP Summary
LCSP Sample
RFP Summary

TDRS begins as a section of the Technical Maturation Risk Reduction then becomes a section of the LCSP.)		
15. Ensure a description of the approach that will be used to ensure data assets will be made visible, accessible, and understandable to any potential user as early as possible is included (intellectual property (IP) strategy (IPS))		
16. Review Modular Open Systems Approach (MOSA) strategy summary written by the program manager for		
a. Life cycle supportability		
b. Financial and support functions to make trade-off decisions that affect system readiness and cost		
c. Conceptual impact on national technology or industrial base		
d. Critical Technology Information Protection		
17. Review exit criteria from the Acquisition Decision Memorandum (ADM) for Product Support issues		
18. This task is one in a series to ensure the LCSP is continually updated to address additional program information and maturity. Reference checklists 2.15, 2.49, 3.29, 5.32, and 6.10.		
19. Consider any known requirements for GFP upfront and include it in LCSP and ASP.		
Note: Review the Enterprise Logistics Flight Plan (ELFP) for compliance with architecture		

EXIT CRITERIA:

Evaluation of Product Support Capabilities
Systems Engineering Plan (SEP)
Support and Maintenance Concepts and Technologies
Request for Proposal (RFP)
Approved and Finalized Preferred Solution from the AoA
Inputs to Technical Maturation Risk Reduction (TMRR)
Cost/Manpower estimates
Technical Maturation Risk Reduction
Acquisition Decision Memorandum (ADM)
Draft Capabilities Development Document (CDD)
Updated Life Cycle Sustainment Plan (LCSP)

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
2.15.1.1	Unique Munitions Acquisition Activities	Initial Capabilities Document (ICD) Capabilities Development Document (CDD) Capabilities Production Document (CPD) Concept of Operations (CONOPS) Joint Capabilities Document (JCD) Key Performance Parameters (KPPs)

DESCRIPTION:

The munitions activities checklist provides guidance on acquisition processes that are wholly unique to munitions development and fielding or have substantial components accomplished only for munitions programs.   The preponderance of these efforts are related safety concerns (qualified and unqualified) over the energetic and potentially volatile nature of the materials and end product. Omission or noncompliance to most of these tasks by appropriate events will result in the stoppage of all related efforts until compliance, including the possibility of a waiver, is achieved.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Ensure a logistician is cognizant of the "Safe and Arm" approval process and disseminates resulting procedures to appropriate document and training development activities 2. Monitor SEEK EAGLE and airworthiness certification processes and ensure appropriate aircraft and maintenance TOs are generated or updated 3. Monitor insensitive munitions testing and ensure information impacting transportation, handling and storage are included in transportation and storage planning 4. Ensure range testing requirements (such as flight termination and telemetry requirements) are addressed early and planning for their use throughout the program's life cycle included in all acquisition phases 5. Maintain awareness of data requirements for the Non-Nuclear Munitions Safety Board and ensure availability of logistical data to support munitions approval process 6. Facilitate all transportation and storage requirements development, distribution planning, storage/facilities planning, and transfer of program responsibility, ensure human system integration (HSI) aspects are considered in all aspects of planning (Performance-Oriented Packing, Interim Hazard Classification, Material Safety Data Sheet, EOD Render Safe Procedures)	MIL STD 882E Standard Practice For System Safety AFI 63-104 The SEEK EAGLE Program AFPD 62-6 USAF Aircraft Airworthiness Certification MIL-HDBK-516B Airworthiness Certification Criteria 10 USC 2389 Subtitle A Part IV Chapter 141 Ensuring safety regarding insensitive munitions RC-319-010 Range Commanders Council Flight Termination Commonality Standard AFI 91-205 Non-nuclear Munitions Safety Board AFI 32-7086 Hazardous Materials Management MIL-STD-2105C Hazard Assessment Tests For Non-Nuclear Munitions TO 11A-1-47 DoD Ammunition and Explosives Hazard Classification Procedures 49 CFR Part 171 General Information, Regulations and Definitions DI-SAFT-80182B Technical Data For Munitions AFI 21-101 Aircraft and Equipment Maintenance Management AFI 32-3001 Explosive Ordinance Disposal Program	Material Solution Analysis Technical Maturation Risk Reduction Engineering & Manufacturing Development Production & Deployment Operations & Support

EXIT CRITERIA:

Systems Engineering Plan (SEP)
SEEK EAGLE certification request/recommendation
Technical Data package
Material Safety Data Sheet
Interim Hazard Classification
Tactical Airworthiness Certification Criteria/Modified Airworthiness Certification Criteria
(TACC/MACC)/certification

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
2.16	Ensure Supportability Included in Program Management/Services Management Agreements (PMA/SMAs)	Acquisition Decision Memorandum (ADM)

DESCRIPTION:

The PMA is a jointly developed and formally documented agreement used to proactively resolve or de-conflict potential issues to include cost, schedule, performance, and logistics expectations over the life of the program. The PMA is designed to facilitate effective communication and provide updates and support for building an understanding between the acquisition/sustainment and operational communities.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Ensure the CONOPS, to include usage rates, etc., are included in the PMA. (Example: Availability Rates, Mean Time between Failure, etc.) 2. Life Cycle Sustainment Plan addresses the Product Support Strategy of the system/product. 3. Ensure Performance Based Logistics (PBL) tenets are considered. 4. Define logistics requirements (Logistic Footprint) to include sustainment strategy – re-procurement of systems, subsystems, components, spares, and services beyond initial production. Include Government Furnished Property (GFP-MAT) 5. Consider disciplined maintenance procedures that preserve the system and end-item operational safety, suitability, and effectiveness throughout the operational life. 6. Establish performance metrics for assessing program success throughout the acquisition life cycle that ensure supportability criteria is included in the PMA (i.e. mean time between failure (MTBF), maintenance cycle time, footprint reduction, supply change management). 7. Coordinate with the appropriate ALC and Defense Logistics Agency (DLA) for Packaging, Handling, Storage and Transportation and Asset Marking to include Item Unique Identification (IUID) requirements 8. Ensure the user addresses / identifies facilities and site survey requirements (Ref. checklist 3.10) 9. Ensure resources, (manpower and TDY dollars) are planned for user and others outside the program office for program execution Note: Review the Enterprise Logistics Flight Plan (ELFP) for compliance with architecture	AFPAM 63-128 Integrated Life Cycle Management DoD LA Guidebook ELFP Product Data Acquisition Guidance **Sample Documents:** ICD Summary LCSP Sample PMA/SMA Sample DoD PBL Guidebook & IPS Elements Guidebook	Materiel Solution Analysis Technical Maturation Risk Reduction Engineering & Manufacturing Development

EXIT CRITERIA:

Updated Initial Capability Document (ICD)
Updated Capability Development Document (CDD)
Updated Life Cycle Sustainment Plan (LCSP)
Updated Draft Capability Development Document (CDD)
Signed Services Management Plan

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
2.17	Include Supportability in the Source Selection Plan (SSP)	Pre-Solicitation Source Selection Planning Source Selection IPT including logistics as applicable Source Selection Authority Assignment Acquisition Plan Brief Description of Requirements Acquisition Decision Memorandum (ADM) Request For Proposal (RFP) Section L and M

DESCRIPTION:

The SSP is a plan that describes how the source selection will be organized, how proposals will be evaluated and analyzed, and how sources will be selected. Sections L and M of the RFP are generally attached to the SS plan. Well thought out evaluation criteria typically including supportability are a part of sections L and M. We select a vendor with the best product support value. Supportability criteria must be well designed and utilized in the source selection process. Source selection IAW the SSP will be conducted following the release of the RFP ending with the contract award.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Ensure integrated baseline addresses product support strategy 2. Develop life cycle product support areas of evaluation 3. Review supportability requirements assessing operational availability, logistics footprint, cost effectiveness and RAMS in the system engineering process 4. Participate on the source selection team to address product support concerns 5. Include HSI criteria as appropriate in the source selection plan and draft RFP 6. Draft request for proposal – sections L and M for product support to include Technical Data Management/Technical Orders, Support Equipment/Automatic Test Systems, Supply Support/Provisioning Strategy, GFP list, Diminishing Manufacturing Sources and Material Shortages and Packaging, Handling, Storage Transportation and Training. Consideration must also be given to Energy Efficiency, Environment, Safety, and Occupational Health (ESOH), Noise (ambient and occupational), Alternate Fuels, reclamation, demilitarization and disposal. Ensure this plan is executed in checklist 2.20 Task 3 7. Ensure RFP clearly states all tech data is to be delivered to the program office Note: Review the Enterprise Logistics Flight Plan (ELFP) for compliance with architecture	IG5315.303 Source Selection Plan Guide (All) DFARS 215.3 Defense Acquisition Guidebook (See Chapters 2, 4, 6, 8, and 11) HSI Guide for Contracts DoDI 5000.02 Operation of the Defense Acquisition System DoD PSM Guidebook Weapon System Acquisition Reform Act 40 CFR part 1500-1508 42 USC 4321 32 CFR 989.3(c)(3) AFI 32-7063, Air Installation Compatibility Use Zone AFFARS Mandatory Procedures 5315.3 AFFARS 5315.305(c) Supportability Requirements DoD 4140.1-M DoD Supply Chain Materiel Management DoDI 4160.28 DoD Demilitarization (DEMIL) Program DoD 4160.28-M Vol. 1 Defense Demilitarization: Program Admin DoD 4160.28-M Vol 2 Defense Demilitarization: DEMIL Coding	Materiel Solution Analysis Technical Maturation Risk Reduction Engineering & Manufacturing Development Production & Deployment

	DoD 4160.28-M Vol 3 Defense Demilitarization: Procedural Guidance	
	DoD DEMIL Web Page	
	AFI 23-101 Air Force Materiel Management	
	ELFP	
	AFMCI 24-201 AFMC Packaging and Materials Handling Policies and Procedures	
	AFI 24-210_IP Packaging of Hazardous Materials	
	Sample Documents: RFP Summary	

EXIT CRITERIA:
Complete Source Selection Plan

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
2.20	Include Supportability Requirements in Request for Proposal (RFP)	Source Selection Plan Technical/Acquisition Strategy Product Support Strategy Milestone Decision Authority

DESCRIPTION:

RFP is used in negotiated acquisitions to communicate the government's requirements and solicit proposals.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Ensure product support requirements are identified including Training, Technical Data Management/Technical Orders, Support Equipment/Automatic Test Systems, Packaging, Handling, Storage and Transportation, Supply Support, provisioning and cataloging requirements, Diminishing Manufacturing Sources and Material Shortages and Asset Marking to include Item Unique Identification (IUID) requirements and known GFP as well as request for contractor to identify additional property required. Coordinate with ALCs and Defense Logistics Agency (DLA) to ensure adequate packaging / transportation requirements are on contract (include data). Ensure Container Design Retrieval System (CDRS) testing requirements are in RFP. 2. Determine life cycle product support activities for the program applicable to all milestones. Specifically include facilities / infrastructure and applicable requirements for high performance facilities 3. Include HSI criteria in the RFP 4. Develop RFP sections L and M IAW plan developed in checklist 2.17 Task 5 to include product support strategy discriminators such as operational availability, logistics footprint, and migration planning and maintenance concept. 5. Develop and revise all sections of the draft RFP for product support where appropriate. 6. Secure logistic experts as source selection evaluators and advisors. 7. Evaluate contractor proposals against product support RFP requirements. 8. Communicate product support strategy with Industry. 9. Identify and include in RFP technical source data requirements for ACAT I and II programs per DoDI 5000.02. While not required by regulation, this strategy is also recommended for ACAT III programs. 10. Develop product support evaluation factors and sub-factors	AFI 63-101/20-101 Integrated Life Cycle Management Defense Acquisition Guidebook (Chapters 4,5, and 6) IG5315.204-5(c)Section M Guide Source Selection Documentation IG5315.204-5(b) Section L Guide Source Selection Documentation Government Industry Data Exchange Program (GIDEP) HSI Guide for Contracts AFMCMAN 23-3 Cataloging and Standardization Chapter 26 AFI 23-101 Air Force Materiel Management AFMCI 23-101 Air Force Provisioning Instruction DoD 4140.1-M DoD Supply Chain Materiel Management Preservation and Storage of Tooling for MDAPs Berry Amendment 10 USC 2320 10 USC 2321 SAF Memorandum on coordination of Requirements Documents for release of RFP 27 Jan 2010 SAF Memorandum coordination of requirements documents for RFP Template Air Force Strategic Energy and Infrastructure Plan ELFPProduct Data Acquisition Guidance	Materiel Solution Analysis Technical Maturation Risk Reduction Engineering & Manufacturing Development Production & Deployment

11. Ensure Government Industry Data Exchange Program (GIDEP) participation is in the contract. 12. Ensure completion of tasks 1.21, 1.21.1, 1.21.2, and 1.21.3 which are specific requirements to be included in the RFP Note: For Services-Based Contracts, a Requirements Approval Document (RAD) is required for contract award. Concurrent Development of the RFP and RAD is highly recommended to avoid potential delays in contract award. For more information on the RAD Process, see the AFMC Contract Support Services Requirements Approval Process Community of Practice Note: Review the Enterprise Logistics Flight Plan (ELFP) for compliance with architecture	FAR and DFARS clauses for Data Rights AFMCI 24-201 AFMC Packaging and Materials Handling Policies and Procedures AFI 24-210_IP Packaging of Hazardous Materials AFMCI24-201, AFMAN 24-204_IP, Preparing Hazardous Materials for Military Air Shipments AFI24-210_IP, Package of Hazardous Material, Title 32, Code of Federal Regulations, Part 49, Transportation and International Air Transport Association (IATA), Dangerous Goods Regulations DFAR 247.371 DD Form 1653, Transportation Data for Solicitations. DoDI 5000.02 **Sample Documents:** RFP Summary	
EXIT CRITERIA:		
Released RFP		

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
2.21.4	Define Contractor Supported Weapon System (CSWS) Data Requirements	AoA Study Guidance Initial Capabilities Document (ICD) System Requirements Document (SRD)

DESCRIPTION:

This checklist provides guidance to define the data requirements for CSWS programs and to ensure data acquisition systems are compatible with the Enterprise Logistics Flight Plan (ELFP) as established by HQ USAF/A4/7 (AFI 63-101/20-101). These requirements are applicable regardless of the type of CSWS (AF, Joint, and Partner Nation) and are reflective of the standards included in the CSWS Alignment Template. This provides the basis for information exchange and a standard set of requirements for CSWS programs at all phases in the weapon system life cycle. Also included are a suggested set of additional requirements to be evaluated by each CSWS program.
This checklist is a living document that will have additional iterations based on implementation of ELFP for current and future weapon systems.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Ensure the following are included as AF data requirements (necessary for ELFP information compliance) in the contractual documentation/information for the CSWS: • Engineering Change Request (ECR) Packages • Assistance Request (AR) • Maintenance Program* • BOM Structure* • Closed ECN with Product Data* • Unsolicited Contractor ECR* • Unsolicited Engineering Change Proposal* • Advanced Shipping Notification (ASN) • Delivery Information • Change in Vehicle Status • Conditional Parameters • Inventory Data • Fault Data • Operational Parameters • Policy and Regulation • Vendor Capacity Data • Vendor Lead Times and Sourcing Information • Carcass Levels • Project Data (Resource Availability/Utilization) • Repairable Returns • Other External Customer Forecasts • Transportation Lead Times • Business Rules for Return Processes • WIP Status • Work Order * Attached to AR, but listed separately for clarification 2. Provide input to the CSWS Contractor Enabling Data Guide (below) to determine the need for elective data feeds from the AF to the contractor for the individual CSWS program. 3. Assist in Determining if there are any additional AF data requirements beyond those listed in the above list or in the Enabling Data Guide.	Designing and Assessing Supportability in DoD Weapon Systems (A Guide to Increased Reliability and Reduced Logistics Footprint) AFI 63-101/20-101 Integrated Life Cycle Management AFI 10-601 Capabilities Based Requirements Development Document - This document supports JCIDS process CJCSI 3312.01A Joint Military Intelligence Requirements Certification AFPD 16-14 Security Enterprise Governanace ELFPCSWS Alignment Template CSWS Data Exchange Requirements Workbook Contractor Enabling Data Guide	Materiel Solution Analysis Technical Maturation Risk Reduction Engineering & Manufacturing Development Production & Deployment Operations & Support

4. Ensure the applicable data requirements and exchange frequencies are included in the contractual documentation/information.		

List of data requirements for CSWS program to be included in contractual documentation/information.

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
2.22	Integrated Baseline Review (IBR)	Contract Award Responsibility Assignment Matrix (RAM) Work Breakdown Structure (WBS) Statement of Work (SOW) Contractor Work Breakdown Structure (CWBS) Dictionary Integrated Master Schedule (IMS) Control Account Plans (CAP) Risk Management Plan Government Furnished Property (GFP) Plan IBR Plan

DESCRIPTION:

The purpose of an IBR is to establish and maintain a mutual understanding of the risks inherent in the performance measurement baseline and the contractor's management processes during program execution. The IBR is part of integrated project management and should be seen as a continuous "process" versus a standalone event throughout the program's life cycle. According to DoD acquisition policy, all programs must conduct an IBR if the contract requires an Earned Value Management (EVM) system. The program manager is responsible for the IBR and will require the technical staff and IPT leads to support this effort. Prior to attending an IBR all participants will attend required training, prepare for the IBR, and lead/conduct IBR baseline discussions regarding functional area of expertise.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. In preparation for the IBR, the logistician reviews available documentation, e.g.,,, responsibility assignment matrix, SOW, WBS, CWBS Dictionary, work authorization documents, schedules, control account plans, risk plan, GFP plan, etc. 2. The logistician also reviews the contractor developed baseline control account plans for product support. The individual will assess plans for realism at the lowest level. Normally, a program will strive to review approximately 80 percent of the contract value. Review will consist of • Significant logistics elements • Product support risk areas • Logistics elements on the critical path 3. Typical discussions will revolve around the methodology the contractor used to develop the work authorization document, schedule planning and basis of estimate that make up each control account plan. Each control account is evaluated to determine if it is a high, moderate or low risk to the program. 4. The logistician will prepare their portion of the out briefing addressing the five IBR goals: • Technical scope is fully included and consistent • Scheduled key milestones identified in a logical flow • Contractor resources are available and adequate	OUSD(AT&L) letter, Revisions to DoD Earned Value Management Policy, 7 Mar 05 Defense Acquisition Guide, The Integrated Project Management Handbook, Chapter III.A Program Managers Guide to Integrated Baseline Review Process Earned Value Management Implementation Guide (EVMIG), Part 2, Section 4 Integrated Baseline Review DAU Risk Management Guide for DoD Acquisition DoD Guide for Achieving Reliability, Availability, and Maintainability DoD Reliability, Availability, Maintainability and Cost	Technical Maturation Risk Reduction Engineering & Manufacturing Development Production & Deployment Operations & Support

• Tasks are planned and can be measured objectively • Management processes support successful execution 5. In some cases, the prime contractor will ask the government to participate in an IBR for their subcontractors or company's interdivisional sites. The same process is used to discuss baseline with sub-control account managers. 6. The logistician will monitor any IBR logistics action items and track their progress at joint management reviews.	Rationale Report (RAM-C) Manual AFPAM 63-128 Integrated Life Cycle Management **Sample Documents** Risk Management Plan Sample	

EXIT CRITERIA:
IBR Memorandum documenting findings and action item plan Updated Risk Management Plan

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
2.23	Include Product Support Activities in Integrated Master Plan/Integrated Master Schedule (IMP/IMS)	Acquisition Decision Memorandum (ADM)

DESCRIPTION:

The IMP/IMS provides a basis for effective communication, serve as baselines for program plans, status and progress: and provides a basis for resource analysis, exploration of alternatives and cost, performance and schedule tradeoff studies. They should be integrated at all levels, contain sufficient detail and capture key events (e.g., acquisition, Training, Technical Data Management/Technical Orders, Support Equipment / Automatic Test Systems (SE/ATS) and Packaging, Handling, Storage and Transportation (PHS&T) logistics, National Environmental Policy Act (NEPA) and T&E perspectives).

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Develop a schedule to assess the adequacy of the logistics-related activities and outcomes in addressing Total Life Cycle System Management responsibilities, objectives, and cost impacts. Do all logistics activities provide traceability to the contractor's Work Breakdown Structure (WBS)? 2. Has a formal program been establish and scheduled to identify actions necessary to achieve significant increases in reliability and reductions in the logistics footprint? Will they be verified in test and evaluation? 3. Has the following LCSP coordination and approval dates been annotated, in the schedule: a. Local organizations – Competition Advocate, Procuring Contract office, Judge Advocate, Small Business, and appropriate ALC or Logistics Office. b. ACAT I and II – SAF/AQX, SAF/AQC, SAF/GCQ and AF/A4L coordinated and signed (at a minimum). SAF/ACE and SAF/FMBI will review and coordinate for policy compliance. 1.) Sustainment command representative to minimum LCSP signature requirements. 2.) PS BCA Planning/Schedule. c. ACAT III – will follow similar process at the local level. PEO is final approval authority. 4. Has it been identified and scheduled, to address all comments, to the LCSP, that need to be reviewed and deliberated by the IPT prior to forwarding to the MDA for approval? 5. Does the development schedule of the Life Cycle Sustainment Plan (LCSP) include all offices/stakeholders? 6. Have supportability/logistics considerations been addressed to include the 12 Product Support Elements including Diminishing Manufacturing Sources and Material Shortages (DMSMS), reclamation, demilitarization and disposal. a. Initial Capabilities Document/Capability Development document b. Acquisition Strategy	AFI 63-101/20-101 Integrated Life Cycle Management Acquisition Decision Memorandum (ADM) AFPAM 63-128 Integrated Life Cycle Management Defense Acquisition Guidebook (Chapters 4.5.2 and 11.3.1.4.2) AFPD 63-1/20-1 Integrated Life Cycle Management AFI 36-2251 Management of Air Force Training Systems IMP/IMS Preparation and Use Guide USAF Project Managers Guide for design and construction 42 USC 4321 40 CFR 1500 32 CFR 989.3(c)(3) AFMCI 24-201 AFMC Packaging and Materials Handling Policies and Procedures DFAR 247.371 DD Form 1653, Transportation Data for Solicitations HQ AFMC PK Mandatory Procedures Mandatory Procedure (MP) 5347.305, Transportation, Packaging Instructions and Data	Technical Maturation Risk Reduction Engineering & Manufacturing Development Production & Deployment Operations & Support

c. Technical Maturation Risk Reduction d. Acquisition Program Baseline e. Test & Evaluation Strategy f. Test & Evaluation Master Plan g. NEPA and facilities / MILCON design and construction timelines		
7. Has the Pre-Initial Operational Capability Supportability Review and Analysis been scheduled?		
8. Has the Air Force logistics data systems, maintenance, supply, Technical Data, SE, PHS&T, and logistics training directives been scheduled to support the assurance of operational safety, suitability, and effectiveness for the Air Force systems and end item?		
9. Has a schedule been developed for Post Deployment Reviews, periodic assessments of system support strategies vs. expected levels of performance and support?		
10. To increase weapon system availability while reducing life cycle cost and the logistics footprint has the logistics manager scheduled periodic assessments, and where necessary, improvements of the product support strategy?		
11. Ensure that all logistics tasks are linked to and supportive of overall program milestones/key events.		
EXIT CRITERIA:		
Life-Cycle Management (LCM) Tools Professional Logistics Workforce identified Total Life Cycle Systems Management (TLCSM) Performance Based Agreement Performance Based Agreement for Organic Supply Support Designing and Assessing Supportability in Weapon Systems Product Support: PM Guide to buying performance		

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
2.24.2	Depot Source of Repair (DSOR)	Technical Maturation Risk Reduction (TMRR) Initial Capabilities Document (ICD) Capability Development Document (CDD) Capability Production Document (CPD) Cost Analysis Requirements Document (CARD) Analysis of Alternatives (AOA) Systems Engineering Plan (SEP) Test and Evaluation Master Plan (TEMP) Life Cycle Sustainment Plan (LCSP)

DESCRIPTION:

All Air Force depot level maintenance posturing decisions are made through the Depot Source of Repair (DSOR) process. Per public law 10 USC § 2366a the DSOR process begins pre-milestone A with a core determination followed by a DSOR decision post milestone A, and lower level DSOR decisions as weapon system information becomes available. Sub-processes include a Source of Repair Assignment (SORA) Process,), and a Depot Maintenance Interservice (DMI) process. The SORA Process determines the best long-term depot maintenance source of repair (SOR) for Air Force workloads while giving full consideration to the requirements of public law, Air Force policy, and which maximize weapon system sustainment to the warfighter with minimum use of scarce USAF resources. Air Force Instruction (AFI) 63-101/20-101 Integrated Life Cycle Management, defines how a product support strategy integrates acquisition and sustainment throughout the weapon system's life cycle. The DMI process determines the final SOR location with consideration to all DoD Services. The logistician will use the Depot Source of Repair Automated Management System (DSOR-II) tool to complete and track the DSOR process. A Weapon System may require multiple DSORs depending on complexity.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE

1. Logistician decides if DSOR required using AFI 63-101/20-101
  a. Identify and define requirements
  b. Initiate Template A in DSOR II requesting core and candidate depot
  c. Provide Phase 1 data using appropriate template format
    1) Template A – New Acquisition/Modification Follow-On/New Work
    2) Template B – Workload Shift
    3) Template C – Modification Installs
        4. Legacy Template – Workload postured prior to 1999
  d. Decide if Commercial Statement is required. If no, proceed to HQ AFMC/A4FD with request. If yes, seek Commercial Statement documentation (requires PK/JAG signature) and provide this with request to HQ AFMC/A4FD.
	AFI 63-101/20-101 Integrated Life Cycle Management
	
	AFPAM 63-128 Integrated Life Cycle Management
	
	DMI Template Depot Source of Repair (DSOR) Community Site (https://cs3.eis.afmc.mil/sites/dsorii/default.aspx)
	
	DoD LA Guidebook
	
	AFPD 63-1/20-1 Integrated Life Cycle Management
	
	AFI 63-131 Modification Management.
	
	DoD Product Support BCA Guidebook
	
	10 USC 2366a
	
	Sample Documents:
	ICD Summary
	CARD Summary
	AOA Study Plan
	SEP Summary
	TEMP Sample
	LCSP Sample
		Material Solution Analysis
		
		Engineering & Manufacturing Development
		
		Production & Deployment
		
		Operations & Support

e. The logistician will track status through DSORII Tool throughout the remainder of the DSOR Process. 2. Once HQ AFMC provides Candidate Depot and Core Assessment the logistician will establish DSOR Team to - complete the SORA (Reference DSOR Community Site). a. Members may include OEM, candidate depot, sustainment manager and other key stakeholders as appropriate b. Team stays formed throughout acquisition to activation (changes into Depot Maintenance Activation Working Group (DMAWG)) 3. DSOR Team evaluates workload a. Determine system support impacts b. Understanding of depot repair requirements c. Determine if and what additional data is required d. Validate/correct candidate depot assignments e. Is candidate depot "interested" in your depot workload? f. Will costing effort be required? g. Is data available from actual system? h. Is data available from "like" systems? i. Gather SORA Template data as appropriate j. Define depot maintenance and acquisition strategy k. Assess depot facilities / infrastructure impacts l. Develop Partnering strategy with stakeholders/ depots m. Update acquisition strategy plan and Life Cycle Sustainment Plan with partnering strategy AFI 63-101/20-101 Para 6.11 4. Conduct Organic vs. Contract cost comparison using the Cost Analysis Tool (CAT) in DSOR II for non-core depot workloads		

a. Validate organic / contractor estimates
b. Partnering may be an option
 	
5. Draft SORA Template to include recommendation / cost estimate
   a. Coordinate with all stakeholders and obtain consensus with SOR recommendation
   b. Ensure appropriate template is filled in DSOR-II
   c. Transmit Template A to HQ AFMC/A4FD
   d. HQ AFMC/A4FD staffs SORA for AFMC/A4 approval (includes 10 USC 2466 assessment)
   e. HQ AFMC/A4FD returns approved SORA to Program Office.
 	
6. Initiate Depot Maintenance Interservice (DMI) 30 days after receipt of approved SORA
   a. Complete DMI Template
   b. Prepare cover letter and submit to HQ AFMC/A4FD
 	
7. HQ AFMC/A4FD conducts DMI review and returns final DSOR Decision Memo to Program Office.
8. Develop a Depot Maintenance Implementation Plan and submit to HQ AFMC/A4FD		

EXIT CRITERIA:
Completed SORA Process (Task 1) Candidate Depot / Core Assessment Request (Task 1) DSOR Team (Task 2) Update to LCSP (Task 3) Completed CAT(Task 4) Signed SORA(Task 5) DMI Decision Memo (Task 6) Depot Maintenance Implementation Plan (Task 7)

Approved Integrated Risk Assessment, POE or other cost estimate as described in AFI 63-101/20-101		
Documentation of the source data for the POE product support elements		
TASK #	**PROCESS NAME:**	**ENTRANCE CRITERIA:**
2.26	Prepare Documentation for Milestone A	Determination that MSD for MS A is required

DESCRIPTION:

There are two types of decision points: milestone decisions and decision reviews. Each decision point results in a decision to initiate, continue, advance, or terminate a project or program work effort or phase. The review associated with each decision point typically addresses program progress and risk, affordability, program trade-offs, acquisition strategy updates, and the development of exit criteria for the next phase or effort. The Milestone Decision Authority approves the program structure, including the type and number of decision points, as part of the acquisition strategy. Per 10 USC 2366A the MDA must provide a signed certification memorandum for record prior to Milestone A approval. Milestone A authorizes entry into the major acquisition process phase for Technical Maturation Risk Reduction. The purpose of this phase is to reduce technology risk and to determine the appropriate set of technologies to be integrated into a full system.

CHECKLIST SUBTASKS:

TASK	**SOURCE DOCUMENTATION**	**PHASE**
Review and make inputs to applicable documents required by statute or regulation before milestone decision	Milestone A Documentation DoDI 5000.02 Operation of the Defense Acquisition System Enc. 4 page 34 DoD PSM Guidebook Weapon System Acquisition Reform Act AFPD 63-1/20-1 Integrated Life Cycle Management 10 USC 2366	Technical Maturation Risk Reduction

EXIT CRITERIA:

Milestone decision approved
All proper supporting documentation put in the official files

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
2.35	Participate in SRR (Demonstrate Concepts)	Acquisition Decision Memorandum (ADM) Initial Capabilities Document (ICD) Draft Capability Development Document (CDD) Analysis of Alternatives (AoA) Test and Evaluation Master Plan (TEMP) System Engineering Plan (SEP) Support and Maintenance concept and Technologies Technical Maturation Risk Reduction (TMRR) Life Cycle Sustainment Plan (LCSP)

DESCRIPTION:

A formal, system-level review conducted to ensure that system requirements have been completely and properly identified and that a mutual understanding between the government and contractor exists.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Coordinate with lead engineer regarding supportability requirements 2. Review applicable documentation against product support strategy such as system maintenance concept, significant system design criteria (reliability, maintainability, logistics requirements, System Life cycle Integrity Management (SLIM) requirements, layout drawings, conceptual design drawings, selected supplier components data, support equipment, etc.) • Define baseline operational scenarios for system alternatives • Participate in market research for supportability attributes of potential commercial products • Identify and estimate achievable values of logistics and R&M parameters • Establish system readiness objectives and tentative thresholds 3. Ensure Intelligence requirements and deficiencies are addressed 4. Ensure that the operational and system views are inclusive of the people that will operate, maintain and sustain the system 5. Ensure Human Systems Integration implications, constraints and issues are adequately addressed in the requirements and supportive of attaining the proper interfaces to support the operational concepts 6. Ensure product support requirements satisfy the ICD or draft CDD 7. Identify support cost drivers and targets for improvement 8. Ensure alternatives to reduce mishap hazards and hazardous materials are considered	Systems Engineering Fundamentals AFI 63-101/20-101 System Requirements Review Procedures MIL-HDBK-502 Product Support Analysis DoD LA Guidebook CJCSI 3312.01A Joint Military Intelligence Requirements Certification AFI 14-111 Intelligence Support to the Acquisition Life Cycle AFI 32-7086 Hazardous Material Management HSI Acquisition Phase Guide HSI Handbook ELFP **Sample Documents:** AOA Study Plan ICD Summary SEP Summary LCSP Sample	Materiel Solution Analysis Technical Maturation Risk Reduction

Note: Ensure compliance with the Enterprise Logistics Flight Plan (ELFP) as part of review		
EXIT CRITERIA:		
Updated Initial Capabilities Document (ICD) Updated Draft Capability Development Document (CDD) Updated Analysis of Alternatives (AoA) Updated Test and Evaluation Master Plan (TEMP) Updated System Engineering Plan (SEP) Updated Product Support Strategy Updated Technical Maturation Risk Reduction (TMRR) Updated Life Cycle Sustainment Plan (LCSP) SRR Minutes		

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
2.49	Baseline Product Support Strategy in LCSP	Capabilities Development Document (CDD) System Performance Specification Validated Systems Support and Maintenance Objective and Requirements Systems Engineering Plan (SEP) Test and Evaluation Master Plan (TEMP) Integrated Baseline Review (IBR) Acquisition Strategy (AS) Acquisition Program Baseline (APB) Affordability Assessment Industrial Capabilities, Cooperative Opportunities Core Logistics Analysis/Source of Repair Analysis, and Competition Analysis for Depot-Level Maintenance >$3M Life Cycle Sustainment Plan (LCSP) if available Minutes from the System Functional Review (SFR) and Critical Design Review (CDR) Updated Cost Analysis Requirements Description (CARD)

DESCRIPTION:

A Life Cycle Sustainment Plan (LCSP) is a comprehensive document that consolidates the weapon system life cycle acquisition management and product support strategies from materiel solution analysis through reclamation/disposal. It is a document that must be maintained to remain compliant with revised/new DoD policy and statutory requirements. It represents a corporate AF position on how to best execute and manage a specific program and requires participation from all program stakeholders in its development and update.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Review the CDD for duration of support, sustainment planning, and any overarching changes in DOTMLPF. Ensure consideration of the proposed target audience (user). This includes the cognitive, physical and sensory abilities i.e., capabilities and limitations of the operators, maintainers, and support personnel that are expected to be in place at the time the system is fielded	AFPAM 63-128 Integrated Life Cycle Management DoD Reliability, Availability, Maintainability and Cost Rationale Report (RAM-C) Manual Defense Acquisition Guidebook Integrated Defense Acquisition Technology and Logistics Life Cycle Mgmt Framework ("Wall Chart") AFI 63-101/20-101 Integrated Life Cycle Management Cost as an Independent Variable (CAIV) Configuration Mgmt Configuration Mgmt 2 Data Management Data Management in Engineering	Technical Maturation Risk Reduction
2. Review the Systems Engineering Plan for product support strategy		
3. Ensure the HSI process is used to support generation of a robust plan that considers all human-related domains in an integrated manner. It must be addressed throughout the life cycle, and must be consistently integrated into SE implementation to balance total system performance (hardware, software, and human), and affordability.		
4. Review the product support strategy for:		
a. Improvements on how the program addresses the support and fielding requirements necessary to meet readiness and performance objectives, lower total ownership cost, reduce risks, and avoid harm to the environment and human health (2.3.12)		
b. Contracting approach for product support throughout the system life-cycle (see DAU Guidebook for more detail)		

5. Total Life Cycle Systems Management (TLCSM) concepts found in the product support strategy for:
 	
  a. Supportability, life cycle costs, performance, and schedule comparable in making program decisions
 	
  b. Planning for operations and support and the estimation of total ownership costs
 	
  c. System effectiveness and any improvements to life cycle product affordability
 	
6. Identify anticipated sustainment requirements to the Centralized Asset Management (CAM) office (AFMC/A4F Workflow). For AFSPC, ANG and AFRC sustainment requirements also contact the respective organization. If program is within 2-3 years of needing O&M sustainment funding, ensure planning for budget input is accomplished. See Task 5.25
 	
7. Review development of Performance Based Logistics (PBL) Business Case Analysis (BCA) to determine relative cost vs. benefits of different support strategies, impact and value of performance/cost/schedule/sustainment trade-offs, and data required to support and justify the PBL strategy
 	
8. Ensure support concepts satisfy user specified requirements for sustaining support performance at the lowest possible life cycle cost for each capability to be delivered to the user including:
 	
  a. Review applicable operational effectiveness analyses to ensure support concepts meet warfighter-specified levels of combat and peacetime performance
 	
  b. Logistics support that sustains both short and long-term readiness
 	
  c. Minimal total life cycle cost to own and operate (i.e., minimal total ownership cost)
 	
  d. Maintenance concepts that optimize readiness while drawing upon both organic and industry sources
 	
  e. Data management and configuration management that facilitates cost-effective product support throughout the system life cycle
 	
  f. Support Equipment (peculiar and common)
 	
  g. Ensure Energy Efficiency and Alternate Fuels are considerations. Review Air Force strategic energy and infrastructure plan
 	
9. Include performance outcomes and corresponding metrics for operational availability, operational reliability, Cost per Unit Usage, Logistics Footprint, and Logistics Response Time
 	
10. Given the operational environment and combatant commander availability requirements, define the logistics reliability targets and the corresponding sustainment infrastructure
	Develop Performance Outcomes
	
	DoDD 5000.01 The Defense Acquisition System E1.1.17 - Performance-Based Logistics
	
	MOSA and Interoperability
	
	PBL: A PM's Product Support Guide (All)
	
	Product Support
	
	Product Support Plan for Information Technology Guide (SWGDO32)
	
	10 USC 2440
	
	Technology Readiness Assessment Deskbook (TRA) (2.3)
	
	Product Support Package
	
	AFI 99-103 Capabilities Based Test and Evaluation
	
	DoD LA Guidebook
	
	Air Force Strategic Energy and Infrastructure Plan
	
	AFMAN 32-1084 Facility Requirements
	
	Logistics Requirements Determination Process
	
	Centralized Asset Management (CAM)
	
	42 USC 4321
	
	40 CFR 1500
	
	32 CFR 989.3(c)(3)
	
	DoDI 5000.02 Operation of the Defense Acquisition System Enclosure 12, Para 6.A
	
	DoD PSM Guidebook
	
	DoD Product Support BCA Guidebook
	
	Weapon System Acquisition Reform Act
	
	Preservation and Storage of Tooling for MDAPs
	
	HSI Handbook	

11. Review maintainability for comprehensive identification of both projected maintenance strategy, including diagnostics, prognostics, maintenance duration targets, and similar measures	HSI Requirements Pocket Guide Product Data Acquisition Guidance Centralized Asset Management (CAM) Document Library in the United States Air Force Enterprise Information Service
12. Review the Total System Product Support Package for product support concepts that are based on reliability and maintainability of the system including manpower and personnel, and Training Systems / Computer based training.	AFLCMC LCSP Standard Process **Sample Documents:** LCSP Sample
13. Review the collection, analysis, and evaluation of system performance and maintenance performance data to determine the need for and prescribe changes to the system configuration, maintenance support structure, and maintenance resource requirements.	SEP Summary CARD Sample TEMP Sample
14. Review identification of potential organic depot-level sources of maintenance alternative and refine logistics support considerations correspondent with the acquisition strategy (when employed).	
15. Ensure National Environmental Policy Act (NEPA), facilities SRM and MILCON funding requirements are addressed lead time away as applicable.	
16. This task is one in a series to ensure the LCSP is continually updated to address additional program information and maturity. Reference checklists 2.15, 2.49, 3.29, 5.32, and 6.10.	

EXIT CRITERIA:
Product Support Strategy Product Support Plan Life Cycle Sustainment Plan Programmatic Environment, Safety, and Occupational Health Evaluation (PESHE) Signed LCSP for Milestone A decision

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:	
3.2.1	Establishing a Technical Order Acquisition Program	Initial Capabilities Document (ICD) Draft Capability Development Document (CDD) Maintenance Strategy Product Support Strategy	

DESCRIPTION:

Technical order requirements must be planned and placed on contract to ensure completion and delivery concurrent with the equipment or hardware. The organization or individual assigned TO acquisition responsibility is called the Technical Order Manager. This checklist gives instruction on how to initiate a technical order acquisition program from development of the strategy to initial contract award.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Establish Technical Order (TO) acquisition program by appointing an experienced technical order manager(s), provide training as needed, and establishing a TO Integrated Program Team. 2. Determine TO program strategy, objectives and requirements by convening a Technical TO Planning and Requirements Conference. The TO program strategy must address the full life cycle of TOs for acquisition, sustainment, management, distribution, and use. 3. Develop TO contract requirements that clearly specify technical order requirements, including for delivery. Use latest version of Technical Manual Contract Requirements (TMCR) Document TM 86-01, to place TOs on contract.	Establish Technical Order Acquisition Program TO 00-5-1 AF Technical Order System TO 00-5-3 Air Force Technical Order Acquisition Procedures TO 00-5-18 USAF Technical Order Numbering System Enhanced Technical Information Management System (ETIMS) ETIMS is the prescribed method of accessing the 00-5 series of TOs. To request access, users should send an e-mail to af.todo1@eglin.af.mil which identifies their full name, AF portal ID and the TOs or TO Series to which access is required Develop TO strategy Technical Order Contract Requirements TO Delivery Requirements TM 86-01 **Sample Documents:** ICD Summary TMCR Sample	Technical Maturation Risk Reduction

EXIT CRITERIA:

Development of Technical Manual Contract Requirements (TMCR) Document, TM-86-01

Development of Technical Order Life Cycle Management Plan (TOLCMP)

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.4.1	Product Support (PS) Business Case Analysis (BCA)	Milestone B Scheduled (initial PS BCA) Change in product support strategy Passage of 5 years since initial PS BCA Baseline Product Support Strategy

DESCRIPTION:

The PS BCA is a structured methodology and document that aids decision making by identifying and comparing alternatives by examining the mission **and b**usiness impacts (both financial and non-financial), risks, and sensitivities. BCAs may be somewhat different from other decision support analyses through their emphasis of the enterprise wide perspective of stakeholders and decision makers and assessment of the holistic effects impacted by the decision. The PS BCA concludes with a recommendation and associated specific actions and an implementation plan to achieve stated organizational objectives and desired outcomes. One principle application of the PS BCA guidebook is to assist the Product Support Manager (PSM) in identifying the product support strategy that achieves the optimal balance between Warfighter capabilities and affordability.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Preparation 1a) PM appoint team lead (typically PSM) 1b) For AFLCMC programs, contact AFLCMC/LG to schedule kick-off meeting (AFLCMC.LG.Workflow@ wpafb.af.mil). For AFSPC programs, contact AFSPC A4/7 for further guidance. 1c) Begin to gather data from all available resources 1d) Identify PS BCA team members 1e) Conduct PS BCA Kickoff (to include AFLCMC/LG) and validate problem statement 1f) Approve problem statement; develop draft alternatives; and develop draft methods and assumptions. Note: Be sure to use established governance structure (see DoD PS-BCA Guidebook and AFLCMC PS BCA Standard Process for additional detail). 2. Execution 2a) Draft alternatives, methodology criteria, scope, methods, tools and rationale 2b) Document data sources and tools	AFI 63-101/20-101 Acquisition and Sustainment Life Cycle Management, 7 March 2013. DoD Product Support Business Case Analysis Guidebook, April 2011 AFPAM 63-128, Integrated Life Cycle Management FY2010 NDAA Sec. 805, Public Law 111-84, Life Cycle Management and Product Support USD AT&L Policy Memo, Strengthened Sustainment Governance for Acquisition Program Reviews, 5 April 10, https://acc.dau.mil/CommunityBrowser.aspx?id=360 875&lang=en-US Air Force Manual 65-510 Business Case Analysis Procedures, 22 September 2008 AFI 65-509 Business Case Analysis 19 September 2008 The DoD Reliability, Availability and Maintainability Cost (RAM-C) Rationale Report Manual, June 1, 2009 DoD 4151.22 M, Reliability Centered Maintenance, 30 June 2011 DoDI 4151.22, Condition-Based Maintenance Plus, 16 Oct 2012 AFLCMC Standard Processes	Technical Maturation Risk Reduction Phase Engineering & Manufacturing Phase Production & Deployment Phase Operation & Support Phase

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2c) Collect data
2d) Analyze data (formulate estimate)
2e) Draft PS BCA briefing and final report
 	
3. Conclusion
  3a) Distribute PS BCA for validation
  3b) Adjudicate edits
  3c) Obtain final validation
  3d) Brief results to senior management
  3e) Document in the LCSP and attach final PS BCA report as a mandatory annex
  3f) Document lessons learned, best practices and resources
  3g) Implement PS BCA recommendations
 	
4. For small modifications (Non ACAT programs), the weapon system BCA should be reviewed to determine if an update is required, but an economic analysis is required to justify the modification requirement.
 	
Note: Steps will not likely be accomplished sequentially. A strong, well-defined problem statement and early implementation/use of the governance structure will greatly reduce re-work and schedule creep.		

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.6	Establish Depot Maintenance Activation Working Group (DMAWG) Team	Identification of new acquisitions with depot repair capabilities Initial SORA identifying organic with a mission assignment

DESCRIPTION:

The objective of the DMAWG is to ensure a required depot maintenance capability is set up in a timely and efficient manner to achieve government-controlled capabilities for the depot repair. The DMAWG is the forum for conducting depot source of repair planning and activation to ensure funding, contracting, and delivery of data is accomplished. If support concept is total Contractor Logistics Support (CLS), a DMAWG is not required; however a Contractor Depot Activation Plan is still required.

CHECKLIST SUBTASKS:

TASK :	SOURCE DOCUMENTATION	PHASE
1. A logistics support plan which defines contractor support and government activities is developed. Be sure to include all 12 Product Support Elements 2. System Program Manager appoints a logistician as DMAWG chair 3. DMAWG chair calls for membership with the assigned depot 4. Develop a DMAWG charter 5. Review and ensure depot support requirements are adequately described 6. Identify participating DMAWG organizations (Maintenance Activation Planning Team) 7. Develop, coordinate and maintain depot activation plans 8. Determine depot activation requirements (facilities, communications requirements, training, SE/ATS, PHS&T, Environment, Safety, and Occupational Health (ESOH), manpower and personnel) 9. Assist in developing funding requirements for depot support 10. Maintain depot activation schedules 11. Conduct DMAWGs and coordinate activation activities. If Depot activation stands up depot repair capability at another DoD Service ensure DMISA development is included in list of activation activities 12. Ensure contractor has capability to support interim logistics support until transfer to organic repair	DoDI 5000.02 Operation of the Defense Acquisition System Enclosure 12 DoD PSM Guidebook Weapon System Acquisition Reform Act DoD Guide for Achieving Reliability, Availability, and Maintainability AFI 32-7086 Hazardous Material Management Defense Acquisition Guidebook AFI 63-101/20-101, Integrated Life Cycle Management AFI 21-102 Depot Maintenance Management (Chapter. 2, Para 2.2) AFMCI 21-101 Depot Maintenance Activation Planning (DMAP) (Chapter. 1) AFI 33-150 Management of Cyberspace Support Activities DoD LA Guidebook AFMAN 32-1084 Facility Requirements Organic Modification Checklist (from AF Sustainment Center)	Engineering & Manufacturing Development Production and Deployment

EXIT CRITERIA:

Depot activation plan

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Minutes of DMAWG
Final SORA Complete
When all identified activations have taken place

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.10	Facilities Concept	Milestone A Approval Initial Capabilities Development

DESCRIPTION:

Identifying and tracking facilities begins early during the operational site reviews when a mission bed down, realignment, transfer, conversion, activation/inactivation, or operational change begins with a site survey tasking for a particular program. The tasking is assessed and assigned to a MAJCOM Installations and Units Action Officer. The action officer reviews the tasking with the program manager and discusses an implementation strategy, to include possibilities of a site survey, a MAJCOM programming plan (PPLAN), environmental concerns and issues, and possible Site Activation Task Force meetings. The action officer acts as the focal point for the PPLAN process and serves as the site survey team chief. A site survey is defined as an authorized visit to survey real property, i.e., facilities/infrastructure and land, to determine its feasibility for unit or mission bed down. The following are some general guidelines for preparing for a site survey. The timelines can vary depending on the urgency of the action and the proposed effective date. The logistician should review and make input to any supportability documents required by statute or regulation before Milestone Decision can be sought and rendered. Facilities summaries are especially relevant because of the long lead-time normally required for establishing or modifying facilities. These summaries shall identify all facilities/infrastructure requirements needed to support the program including communications, test equipment, training aids, building size and any other special considerations especially the habitability and ESOH issues to facilitate safe and effective operations, consistent with the operational and sustainment concepts. The logistician, in conjunction with Civil Engineering, should perform analyses (to include HSI) to define necessary facilities/infrastructure or improvements, review and make input to key documents required by statute or regulation before Milestone Decision can be sought and rendered.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Provide inputs to MAJCOM in determining proposed bed down date, aircraft delivery schedule, aircraft numbers (PAA/BAI), manpower and personnel impacts, mission unique requirements, and impacts on base operating support. 2. Coordinate on site survey objectives, proposed actions, and facilities/infrastructure requirements with MAJCOM. Provide bed down recommendations based on potential bed down sites and facility options. 3. All basing actions require following the strategic basing process identified in AFI 10-503. The process includes the submission of a Basing Action Request (BAR) for approval of site surveys locations and completion of the mandatory Environmental Impact analysis Process (EIAP). 4. Participate in site survey, as required. – Attend site survey team in-brief to Wing Commander, staff, and base-level functional managers on the purpose of the visit. – The site survey team will be briefed on potential bed down sites and facility options. – In most cases, the team is taken on a tour of applicable base facilities. – The team will breakout into working groups and the logistician will support the logistics activity; attend integration meetings; participate in out brief preparation, and assist in the development of site survey report. – At the conclusion of the site survey the Site Survey Team Chief will send out an e-mail	AFI 10-503 Strategic Basing MIL-HDBK-502 Product Support Analysis MIL-STD-3007F Unified Facilities Criteria and Unified Facilities Guide Specifications AFI 32-1024 Standard Facility Requirements AFPD 10-5 Basing AFI63-101/20-101 Integrated Life Cycle Management AFI 10-501 Program Action Directives (PAD) and Programming Plans (PPLAN) AFI 32-1021 Planning and Programming	Technical Maturation Risk Reduction Engineering & Manufacturing Development Production & Deployment

advising everyone that the final site survey report is available (usually posted on a web site).
 	
5. In some cases, MAJCOM may request support to develop and publish their PPLAN for bed down action. The PPLAN describes the program, outlines the milestones, and identifies the associated tasks. It also forms the basis for a future Site Action Task Force. See Task 5.14 SATAF.
 	
6. In coordination with base Civil Engineering the logistician shall address integrated site survey activities to include:
  – Begin analysis comparing existing allocated space at test, depot, training and operational locations to determine specific facilities requirements to support the system.
  – Verify maintenance and storage facilities options (contractor or organic, another Service, etc.)
  – Determine if existing facilities/infrastructure can be used and if new or modified support facilities are required.
  – Ensure Energy Efficiency, and Alternate Fuels considerations are addressed
  – Verify environmental compliance, pollution prevention and recovery or disposal considerations in the facilities consideration.
  – Determine habitability and occupational health related issues that must be accommodated to facilitate safe, effective operations.
  – Determine communication requirements including access and connectivity.
  – Ensure that the National Environmental Policy Act (NEPA) process is started.
 	
7. For program requirements the logistician should consider the following facilities/infrastructure questions and incorporate into the POM process as required. Ref. Task 3.11 MILCON/Sustainment, Restoration and Modernization.
  – Do the facilities meet peacetime and wartime objectives? Are deployed facilities required? Review applicable operational effectiveness analyses for basing considerations
  – Do you have organic depot cost estimates to support depot repair?
  – Do you have contractor depot cost estimates to support depot repair?
  – Is there special facility requirements needed for system software sustainability?
  – What is the status of facilities design planning?
  – What risks have been identified and what are the mitigation plans?
  – Have environmental compliance, pollution prevention and recovery or disposal considerations been updated from materiel solution analysis for the facility?
  – Are there any unique habitability or occupational health issues to be considered to support the system(s)?
	Military Construction (MILCON) Projects
	
	AFI 32-1023 designing and Constructing Military Construction (MILCON) Projects
	
	AFI 32-1032 Planning and Programming, Appropriated Funded Maintenance, Repair, and Construction Projects
	
	AFI 32-7061 The Environmental Impact Analysis Process
	
	DoD IPS Element Guidebook
	
	42 USC 4321
	
	40 CFR 1500
	
	32 CFR 989.3(c)(3)
	
	DoDI 5000.02 Operation of the Defense Acquisition System Enclosure 12
	
	DoD PSM Guidebook
	
	Weapon System Acquisition Reform Act
	
	AFI 32-9004 Disposal of Real Property
	
	HSI Acquisition Phase Guide
	
	DoD LA Guidebook
	
	Sample Documents:
	ICD Summary
	POM Summary
	Site Survey Sample	

– Verify NEPA process being used reference Checklist 3.10.2
    – If the deployment of a weapon system is an overseas location it may require the host nation acquire land and provide infrastructure support (power, water, communications, etc.) and/or facility support (construction of facilities to support installation of the system).
    – Identify communications requirements and perform an RF site survey to fully understand the behavior of radio waves within a facility before installing wireless network access points
8. Ensure additional requirements for equipment for facility operations are identified and programmed by the appropriate user (special equipment, communications Equipment, Office furniture, etc.)
 	
Note: Facilities – vertical structures that house people and or equipment, i.e. Buildings.
Note: Infrastructure (for Civil Engineering) includes support elements such as, water, electrical distribution, communications, sewage, storm lines , natural gas lines, fuel storage, pavements, runways, etc.		

EXIT CRITERIA:		
Site Survey Report PPLAN POM Inputs All proper supporting documentation put in the official files		

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.10.1	Determining Manpower and Personnel Requirements	Target Audience Description (TAD) Draft Maintenance Concept Cost Analysis Requirements Description (CARD) Initial Capability Document (ICD) Capability Development Document (CDD) Capability Production Document (CPD) Life Cycle Sustainment Plan (LCSP) Analysis of Alternatives AoAs Systems Engineering Plan (SEP)

DESCRIPTION:

The logistician must ensure through contact with the MAJCOM, Product Centers and Air Logistics Complexes that manpower and personnel considerations are appropriately documented. HSI subject matter experts can assist in this effort. (MAJCOM HSI cell or 711 HPW/HP)

Personnel: Refers to the specific knowledge skills and abilities of the individual.

Manpower: A critical resource that supports an approved program. It is not a program by itself and should not be manipulated separately from the program it supports.

Manpower Requirement: A statement of manpower needed to accomplish a job, workload, mission, or program. There are two types of manpower requirements: funded and unfunded. Funded manpower requirements are those that have been validated and allocated. Unfunded requirements are validated manpower needs but deferred because of budgetary constraints.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Participate in requirements discussions related to operators, maintainers or support personnel; interpret the User's needs and requirements (including Manpower and personnel implications, constraints, and issues) and develop strategy for addressing. 2. Participate in activities that address Manpower, personnel, training, human factors engineering, Environment, Safety, Occupational Health, habitability, Intelligence, supportability or any other Product Support element or related areas (such as maintenance concept, organizational structure, knowledge, skills and abilities, or cognitive requirements) and provide guidance on accommodating Manpower into the design, or identify the effects the design will have on the operator or maintainer. Manpower high drivers include: • Tasks that require high frequency man-hour/manpower • Tasks that are labor intensive • Tasks that require multiple persons to perform • Weapon system designs and organizational designs that increase manpower requirements 3. Assure Manpower and personnel requirements are clearly reflected in the system functional baseline and that they are feasible and testable/verifiable. 4. Assure reliability, maintainability; design analysis, Engineering Change Proposals (ECPs) and trade studies reflect any impact on Manpower and personnel issues. 5. Assure Manpower and personnel considerations are included in acquisition documentation.	CJCSI 3170.01I Joint Capabilities Integration and Development System (JCIDS) AFI 10-601 Capabilities-Based Requirements Development This document support JCIDS process AFI 63-101/20-101, Integrated Life Cycle Management Systems Engineering Plan (SEP) Outline Defense Acquisition Guidebook (See Chapters 3,4, 5, and 6 10 USC 2434 AFI 38-201 Determining Manpower Requirements See Para 11.2.3, Attachment 8, Table A8.1. DoDI 5000.02 Operation of the Defense Acquisition System DoD PSM Guidebook DoD Product Support BCA Guidebook Weapon System Acquisition Reform Act	Materiel Solution Analysis Technical Maturation Risk Reduction Engineering & Manufacturing Development Production & Deployment Operations & Support

6. The Manpower Estimate Report (MER) which is required by 10 U.S.C. Section 2434 for all Major Defense Acquisitions Programs (MDAP), ACAT I, is prepared by the DoD Component's operating command with inputs from the implementing, supporting and participating commands manpower authority, or its designee, in support of Milestones B, C and Full-Rate Production (FRP). ACAT II and below programs are not required 7. Manpower and personnel issues and concerns: • Is there a legacy system to use as a manpower and personnel baseline? • Do the manpower levels need to be constrained to the same level as the predecessor system? • Will the manpower mix (military, civilian, contractors) be the most efficient and cost effective? • Is there a mandate to optimize or reduce manpower authorizations? • Have manpower authorizations been justified and/or modified to meet mission need? • Will an increase in end-strength be required? • What are the end-strength offsets? • Approximately how many authorizations will it take to operate, maintain, train and support the full capability? *(Full capability includes all operational and maintenance (local and remote) components.)* • What manpower estimate was used for the affordability assessment? • How does the manpower estimate compare to current requirement and authorizations? • How much could manpower grow before it would impact the affordability decision? • If the manpower estimate is greater than authorizations, what is the resource sponsor's position regarding funding? • Once manpower and personnel requirements are identified, ensure the program inputs them to the POM.	Designing and Assessing Supportability in DoD Weapon Systems (A Guide to Increased Reliability and Reduced Logistics Footprint) See Chapter 3, but scan entire document for further information Target Audience Description Guide CJCSI 3312.01A Joint Military Intelligence Requirements Certification AFI 14-111 Intelligence Support to the Acquisition Life Cycle AFI 38-204 Programming USAF Manpower HSI Acq Phase Guide HSI Requirements Pocket Guide HSI Handbook **Sample Documents:** ICD Summary CARD Summary AOA Study Plan SEP Summary LCSP Sample MER Sample TEMP Sample LCC Summary POM Summary	

EXIT CRITERIA:

Inputs into Analysis of Alternatives (AoAs)
Input into Systems Engineering Plan (SEP)
Input into Maintenance Concept
Inputs into Training Plans
Inputs into Test and Evaluation Master Plan (TEMP)
Input into Initial Capabilities Document (ICD)
Input into Capabilities Development Document (CDD)
Inputs into Production Capability Document (PCD)
Input into Life Cycle Sustainment Plan (LCSP)
Input into Manpower Estimate Report (MER)
Input into Life Cycle Cost (LCC) Estimates
Input to the Program Objective Memorandum (POM)
Participate in SACOM Interview

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.10.2	Address National Environmental Policy Act (NEPA) requirements	Initial Capabilities Document (ICD) LCSP (REPLACED))Systems Engineering Plan (SEP) Analysis of Alternatives (AoA) Draft Capabilities Development Document (CDD) Draft Capabilities Production Document (CPD) Site Survey Other Program Documentation as it becomes available

DESCRIPTION:

The process to ensure compliance with the National Environmental Policy Act (NEPA) of 1969 (42 USC 4321). NEPA requires environmental impact assessments for agency actions to examine all viable alternatives for environmental impacts and to identify potential mitigation efforts. This task includes the planning required for compliance and influencing the design process to fulfill NEPA requirements. Ensure that design impacts are included in the HSI planning. Typically, assessment to comply with the requirements NEPA or Executive Order (EO) 12114, Environmental Effects Abroad of Major Federal Actions, must be completed for testing and basing activities. The proponents for those actions, test and using command organizations must initiate AF Environmental Impact Analysis Process documents. The Program Office is responsible for supporting these analyses, documenting the schedule for completing those analyses and integrating environmental hazard risks into the systems engineering process.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE

1. Participate in program activities ensuring the NEPA requirements are addressed, such as hazardous materials/waste, AICUZ, air quality, water resources, safety and occupational health, biological resources, cultural resources, geology and soils, and socioeconomic.
2. Determine planned programmatic activities/events that affect the environment, examples include, but are not limited to: Prototype development, testing, bed down, depot activation and additional base activations.
  a. Determine locations and dates that events will occur and, when the proponent for those activities, initiate AF IMT 813 to begin NEPA process.
  b. Coordinate completion of AF IMT 813 with environmental office where events are taking place
  c. Support follow-on environmental assessments.
  d. Ensure a copy of the AF IMT 813 is maintained in program office files.
  e. Document NEPA compliance schedule in PESHE (an acquisition program ESOH strategy and ESOH risk repository document required by DoDI 5000.02)
3. Integrate significant findings from NEPA analyses and identified mitigations into program engineering and budgeting processes.
	32 CFR 989.3(c)(3)
	42 USC 4321
	40 CFR 1500
	DoDI 5000.02 Operation of the Defense Acquisition System Enclosure 12, Para 6
	DoD PSM Guidebook
	Weapon System Acquisition Reform Act
	AF IMT 813
	AFI 32-7063 Air Installation Compatible Use Zones (AICUZ)
	DoD LA Guidebook
	AFI 32-7001 Environmental Management
	AFI 32-7061, The Environmental Impact Analysis Process
	AFI 63-101/20-101 Integrated Life Cycle Management
		Technical Maturation Risk Reduction Engineering & Manufacturing Development
		
		Production and Deployment
		
		Operations & Support

		HSI Acquisition Phase Guide	
EXIT CRITERIA:			
AF IMT 813 NEPA/EO 12114 Compliance Schedule Updated AoA Updated LCSP (REPLACED TEMP) Updated CDD Updated SEP Updated CPD			

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.11	Define and Implement Military Construction (MILCON) and Sustainment, Restoration and Modernization (SRM) Requirements	Concept of Operations (CONOPS) Initial Capabilities Document (ICD) Capability Development Document (CDD) Program Management / Services Management Agreement (PMA/SMA) Site Survey

DESCRIPTION:

This checklist is intended to define, review and implement requirements for any new or modified facilities and associated facilities equipment for purposes of supporting the MILCON and SRM processes. MILCON is 3300 funding. SRM is O&M. ***Considerations for National Environmental Policy Act (NEPA) lead time must be included in the facilities MILCON and minor construction schedule. Reference Task 3.10.2

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Determination of facility requirements begins with site survey. Participants should include, but are not limited to Program Office, Lead Command, Using Command, and base-level user 2. Following the site survey, the base-level user submits AF Form 332, Environmental Assessment, Economic Assessment, communications requirements etc. Final package is forwarded to the Using or Lead Command on DD Form 1391. Ensure depot facilities are included 3. The logistician should contact the using command, lead command, and depot to ensure the facilities process is on track, including CSO requirements 4. Program Office provides POM inputs to Using or Lead Command. For MILCON, using or Lead Command identifies and POMs funding to support fielding of the system through HQ AF Note: For minor construction projects (less than $750K) coordinate with Using or Lead Command to ensure facilities are available to support bed down of the system. If minor construction project of 750K or less, O&M dollars are used. Check to see who is responsible for SRM funding (base or program office). Consider a facilities requirement plan as a CDRL from the prime contractor	AFI 10-503 Strategic Basing DoDI 5000.02 Operation of the Defense Acquisition System DoD PSM Guidebook Weapon System Acquisition Reform Act Defense Acquisition Guidebook AFI 32-1021 Planning and Programming Military Construction (MILCON) Projects AFI 32-1023 Designing and Constructing Military Construction (MILCON) Projects AFI 32-1032 Planning and Programming, Appropriated Funded Maintenance, Repair, and Construction Projects AFI 32-7061 The Environmental Impact Analysis Process DoD IPS Element Guidebook AFI 33-150, Management of Cyberspace Support Activities AFI 32-1021 Planning and Programming Military Construction (MILCON) Projects AF Form 332 AF Form 813 DD Form 1391 AF Form 3215 Preservation and Storage of Tooling for MDAPs **Sample Documents:** ICD Summary POM Summary	Engineering & Manufacturing Development Production & Deployment

	PMA/SMA Sample	
EXIT CRITERIA:		
Funding provided to accomplish MILCON project construction Inputs to Program Objective Memorandum (POM) for minor construction		

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.12	Participate in Critical Design Review (CDR)	Capability Development Document (CDD) Life Cycle Sustainment Plan (LCSP) System Engineering Plan System Performance Specification System Allocated Baseline Updated Cost Analysis Requirements Description Life Cycle Cost Analysis Reliability Analysis Technical Design documentation (engineering drawings, preliminary technical orders; commercial manuals; preliminary materials, parts, and processes; analyses; reports; trade studies; logistics support analysis data; etc. Updated threat assessment baseline from Intelligence Test and Evaluation Management Plan Updated Manpower Estimates Updated HSI plan System Engineering Plan (SEP) Successful completion of all PDR action items Applicable CDRLs

DESCRIPTION:

The CDR is a multi-disciplined technical review to ensure that the system under review can proceed into system fabrication, demonstration, and test; and can meet the stated performance requirements within cost (program budget), schedule (program schedule), risk, and other system constraints. For complex systems, the program manager may conduct a CDR for each subsystem or configuration item. These individual reviews would lead to an overall system CDR.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Maintenance Planning includes plans/concept for initial, transition and steady state organizational and depot level O&M support, warranties, CORE and SORAP status. 2. Review status of unresolved maintenance and maintenance data problems since PDR. 3. Has a process been implemented to assess achieved reliability, availability, maintainability (RAM),cost performance by collection and analysis of user data? 4. Has a Failure Reporting Analysis and Corrective Action System (FRACAS) been established and failures analyzed and trended for ILS visibility? 5. Review the updated life cycle cost estimate to ensure adequate hardware, software, and personnel support is allocated. Ensure these are contained in the updated CARD and MER 6. Review updated list of required support equipment and verify compatibility of proposed support equipment with the system maintenance concept 7. Verify maximum consideration of GFP-MAT, SE and common parts (standard item with NSN should be first preference). Review GFP-MAT provisioning planning to ensure timely receipt or required items. Ensure SERD procedures in place. 8. Review calibration and reliability predictions for SE. 9. Review spares planning to insure full understanding of scope of requirements to include provisioning requirements, GFP usage, and support during test and initial deployment 10. Have accepted sparing analysis and modeling tools been utilized and are the assumptions consistent with the	DoD Systems Engineering Fundamentals Defense Acquisition Guidebook System Engineering Critical Design Review Comprehensive CDR Checklist Logistics Considerations AFI 99-103 Capabilities Based Test and Evaluation AFMCI 23-103 Diminishing Manufacturing Sources and Material Shortages (DMSMS) Program DoD 4140.1-M DoD Supply Chain	Engineering & Manufacturing Development

supportability analysis and the prescribed maintenance concept? 11. Has a Diminishing Manufacturing Sources and Material Shortages (DMSMS) program been established and documented consistent with DoD policy. 12. Ensure energy efficiency and alternate fuels are considered 13. Review technical manuals and technical data package availability to include support equipment and COTS manuals. Ensure data rights issues are addressed. 14. Review status of the Technical Manual Publications Plan to include availability of technical manuals for certification (validation) and verification during DT&E testing 15. Review plans for Work Unit Coding of the equipment 16. Determine if design meets contracts requirements governing size and weight to permit economical handling, loading, securing, transporting, and disassembly for shipment. Identify potential outsized and overweight items. 17. Where applicable, have Unique Identification requirements been incorporated? 18. Identify system/items defined as being hazardous and mitigate the risks to acceptable levels. 19. Has a program to eliminate Environment, Safety, and Occupational Health (ESOH) hazards or manage the risk where the hazard cannot be avoided been established? 20. Has a Programmatic Environment, Safety, and Occupational Health Evaluations (PESHE) been updated to summarize identified ESOH hazards and the associated risks and National Environmental Policy Act (NEPA) compliance schedule? 21. Ensure the design comprehensively addressed the operators, maintainers and support personnel to optimize total system performance, reduce life cycle costs and mitigate program risks. 22. Review Transportability Analysis to determine that transportation conditions have been evaluated. Identify any equipment to be test loaded for air transportability of material in military aircraft. 23. Have potential PHS&T related problems been identified and are risk mitigation plans in place? 24. Has a Training Plan been approved? Does the plan address how courses and related materials and devices will be developed for training at each required level of maintenance? 25. Has the Manpower Estimate Report been updated? (ACAT1 only)? 26. Is there a total breakout of number of personnel and Air Force Specialty Codes that are projected to support the system? 27. Does the Product Support Plan include analysis conducted to determine facility requirements? Are there a Facilities Requirements Document and a schedule to conduct Site Surveys? Reference Checklist 3.10. 28. Ensure logistics decisions and risk identified and are incorporated into the minutes Note: Review the Enterprise Logistics Flight Plan (ELFP) for compliance with architecture – creation of Operational/System/Technical View document may be required.	Materiel Management AFI 21-118 Improving Air and Space Equipment Reliability and Maintainability AFI 63-101/20-101, Integrated Life Cycle Management DoD LA Guidebook DoDI 5000.02 Operation of the Defense Acquisition System Enclosure 12, Para 6.A DoD PSM Guidebook Weapon System Acquisition Reform Act AFI 32-7086, Hazardous Material Management 40 CFR 1500 32 CFR 989.3(c)(3) 42 USC 4321 DoD Reliability, Availability, Maintainability and Cost Rationale Report (RAM-C) Manual ELFP HSI Requirements Pocket Guide HSI Acquisition Phase Guide **Sample Documents:** LCSP Sample TEMP Sample SEP Summary	
EXIT CRITERIA:		
An established system product baseline The status of the technical effort and design indicates OT success (operationally suitable and effective)		

The detailed design, as disclosed, will satisfy the CDD/CPD/ORD

The program schedule is executable within the anticipated cost and technical risks

An updated risk assessment for Engineering and Manufacturing Development

An updated Cost Analysis Requirements Description (CARD) (or CARD-like document) based on the system product baseline

Updated requirements for operations, maintenance, and training needs are complete and unambiguously stated in the system or subsystem specifications

Updated requirements for RM&A are complete and unambiguously stated in the system or subsystem specifications

Updated Life Cycle Sustainment Plan (LCSP)

An updated Test and Evaluation Master Plan (TEMP)

An updated System Engineering Plan (SEP)

CDR Minutes

Programmatic Environment, Safety, and Occupational Health Evaluations (PESHE)

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.13	Prepare Documentation for Post-Critical Design Review (CDR) Assessment	Outputs from Critical Design Review

DESCRIPTION:

The Post-CDR Assessment provides an opportunity for mid-phase assessment of design maturity. It is not as large as a Milestone Decision Review (does not require as much documentation as specified by 5000.02) but it is not a technical review either. They are usually Milestone Decision Authority (MDA)-led management oversight reviews intended to provide an assessment (cost, schedule, supportability, and performance) of a program's readiness to progress further through the acquisition life cycle. MDA can determine the form and content of the review consistent with entrance/exit criteria for the Systems Integration and Systems Demonstration phases.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Review the number of subsystem and system design reviews for successfully completing product support initiatives. 2. Review percentage of drawings completed 3. Review planned corrective actions for product support deficiencies 4. Assess the Environment, Safety, and Occupational health risks 5. Review the completed failure modes and effects analysis 6. Assess key product support system characteristics (include support equipment) and processes 7. Ensure Energy Efficiency Environment, Safety, and Occupational Health (ESOH), Noise (ambient and occupational) and Alternate Fuels are considered. 8. Ensure all HSI issues to include integration risks are addressed. 9. Review estimate of system reliability based on demonstrated reliability rates; etc. 10. Ensure logistics decisions and risk identified and are incorporated into the minutes Note: There is no guidebook or list of mandatory criteria.	DoDI 5000.02 Operation of the Defense Acquisition System Enclosure 2, Para 6.c.6.(c), Enclosure 12, Para 6 DoD PSM Guidebook Weapon System Acquisition Reform Act Defense Acquisition Guidebook DoD LA Guidebook AFI 32-7063, Air Installation Compatibility Use Zone HSI Requirements Pocket Guide HSI Acquisition Phase Guide	Engineering & Manufacturing Development

EXIT CRITERIA:

Completion of Post-CDR Assessment
Post-CDR Assessment Minutes

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.17	Participate in Test Readiness Review (TRR)	Test Plan Test and Evaluation Master Plan (TEMP) Initial Capabilities Document (ICD) (Draft) Capability Development Document (CDD) (Draft) System Engineering Plan (SEP) Support and Maintenance Concept and Technologies

DESCRIPTION:

A review of the test plan, including safety and facilities, to determine readiness to begin testing.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Identify any Product Support (PS) KPP/KSAs within the test plan and ensure they are fully tested, analyzed, and assessed to meet acceptance criteria. 2. Identify opportunities to assess operational safety, suitability and effectiveness of the PS strategy and CONOPs. 3. Review PS readiness assessments, as possible. 4. Review system logistics footprint assessments, as possible. 5. Review PS facility and infrastructure requirements assessments, as possible. 6. Review maintenance procedures assessments, as possible, to include technical manual development and data availability. 7. Review support equipment suitability (to include calibration requirements) and compatibility with system maintenance concept assessments, as possible. 8. Review on-equipment vs. off-equipment maintenance tasks assessments, as possible. 9. Review system size and weight, permitting economical handling, loading, securing, transporting, and disassembling for shipment, to include handling hazardous materials assessments, as possible. 10. Ensure test plan includes adequate funding for PS testing requirements, to include fee for service support and contracted logistics/maintenance support. Scope and plan the necessary resources to support the test program. (including test participants) 11. Ensure test plan includes adequate testing for all HSI relevant requirements. 12. Ensure Energy Efficiency, Environment, Safety, and Occupational Health (ESOH), Noise (ambient and occupational) and Alternate Fuels are considered. 13. Assess status of Training Systems to ensure supportability requirements have been met	Defense Acquisition Guidebook Chapter 9 AFPD 99-1 Test and Evaluation Process DoD Guide for Achieving Reliability, Availability, and Maintainability Paragraphs: 2.3.4, 4.5.3, 4.5.3.4 AFI 99-103 Capabilities Based Test and Evaluation DoD LA Guidebook CJCSI 3312.01A Joint Military Intelligence Requirements Certification AFI 14-111 Intelligence Support to the Acquisition Life Cycle DoDI 5000.02 Operation of the Defense Acquisition System Enclosure 12, Para 6 DoD PSM Guidebook Weapon System Acquisition Reform Act HSI Acquisition Phase Guide AFI 32-7063, Air Installation Compatible Use Zones **Sample Documents:** ICD Summary TEMP Template SEP Summary	Technical Maturation Risk Reduction Engineering & Manufacturing Development Production & Deployment Operations & Support

14. Ensure Intelligence interests are addressed. Reference Appendix A, Checklist 1.1		
EXIT CRITERIA:		
Approved Readiness to Conduct Test Updated/Approved Test Plan		

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.18	Refine Supportability Objectives	Capability Development Document (CDD) Key Performance Parameters (KPPs) Developed Product Support Capabilities Life Cycle Sustainment Plan (LCSP)

DESCRIPTION:

The objective of most support system design activities is to identify support considerations (e.g.,, constraints) which may influence selection. The logistician should address all supportability analysis needed to analyze, define, and verify the supportability thresholds and objectives for a system and to assess the risks in accomplishing them. Early in the process, the issue of tradeoffs must be raised during the analysis of proposed concepts. Careful use of tradeoff studies will guide the logisticians in finding the optimal design—one which balances design objectives with supportability requirements. The supportability analysis is an analytical tool, conducted as part of the systems engineering process to determine the most cost-effectively support for the system over its entire life cycle. It provides the basis for related design requirements that may be included in specifications.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Ensure a logistician is involved on the team that develops the Systems Engineering Plan 2. Analyze Operational Capabilities and Environmental Constraints 3. Ensure consistency with Air Force Logistics Enterprise Architecture (AFLMA) 4. Refine Concept Performance (and Constraints) Definition and Verification Objectives 5. Review ICD and draft CDD 6. Review Test Strategy as listed in the TEMP 7. Review Support and Maintenance Concepts for all 12 Product Support Elements. Specifically for Support Equipment, minimize peculiar support equipment. 8. Review and update Item Unique Identification (IUID) and System Life cycle Integrity Management (SLIM) requirements 9. Decompose Concept Functional Definition into Component Concepts and Assessment Objectives 10. Refine Component Concepts 11. Refine Intelligence supportability analysis. Reference Appendix A, Checklist 1.1 12. Refine program protection planning process 13. Address Environment, Safety, and Occupational Health (ESOH) considerations 14. Ensure Human Systems Integration implications, constraints and issues are addressed and included	CJCSI 3170.01I Joint Capabilities Integration and Development System (JCIDS) Systems Engineering Plan (SEP) Outline Designing and Assessing Supportability in DoD Weapon Systems (A Guide to Increased Reliability and Reduced Logistics Footprint) Entire document provides a general understanding on JCIDS. AFI 63-101/20-101, Integrated Life Cycle Management AFI 10-601 Capabilities Based Requirements Development This document supports the JCIDS process MIL-HDBK-502 Product Support Analysis AFI 99-103 Capabilities Based Test and Evaluation DoD LA Guidebook CJCSI 3312.01A Joint Military Intelligence Requirements Certification AFI 14-111 Intelligence Support to the Acquisition Life Cycle ELFP DoDI 8320.04 Item Unique Identification (IUID) Standards for Tangible Personal Property HSI Acquisition Phase Guide HSI Handbook	Technical Maturation Risk Reduction

Note: Review the Enterprise Logistics Flight Plan (ELFP) for compliance with architecture	**Sample Documents:** SEP Summary	
EXIT CRITERIA:		
Updated Systems Engineering Plan (SEP) Updated System Support and Maintenance Concepts Updated Acquisition Plan Updated Life Cycle Sustainment Plan		

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.22	Review Capability Development Document (CDD) for supportability	Capabilities Based Analysis (CBA) AoA Results Supportability Objectives Capabilities Review and Risk Assessment (CRRA) JCIDS DOTMLPF analysis Approved ICD

DESCRIPTION:
The CDD is the sponsor's primary means of defining authoritative, measurable, and testable capabilities needed by the warfighter to support the EMD phase of an acquisition program. CDD captures the information necessary to deliver an affordable and supportable capability using mature technology within the acquisition strategy. CDD must include a description of the DOTMLPF and policy impacts and constraints. The CDD will be validated and approved before Milestone B.

CHECKLIST SUBTASKS:		
TASK	SOURCE DOCUMENTATION	PHASE

1. Participate in the initial development, review and update of the entire CDD for supportability and usability inputs since these inputs are incorporated throughout. Reference the AFMC/A4 CDD Review Checklist.
 2. Review data used to support initial JCIDS analysis
 3. Understand the operational and threat environment in which capability is exercised and manner in which the capability will be employed. (For Intelligence Reference Appendix A, Checklist 1.1)
 4. Analyze operational capabilities and environmental constraints. (For Intelligence Reference Appendix A, Checklist 1.1)
 5. Ensure hazardous materials, Environment, Safety, and Occupational Health (ESOH) and Noise (ambient and occupational) constraints are addressed.
 6. Review concept performance definition and verification objectives to include constraints
 7. Need to ensure supportability analysis determines cost effective support over system life cycle
 8. Ensure requirements include Technical Orders and other Technical Data, Support Equipment, Packaging, Handling, Storage and Transportation; Reliability, Availability, Maintainability (RAM), Cost; System Life cycle Integrity Management (SLIM), Item Unique Identification (IUID), Production, interoperability and maintainability concepts for inclusion into specifications
 9. Ensure Human Systems Integration implications, constraints and issues are addressed and included in the CDD.
 10. Ensure DOTMLPF analysis includes logistics considerations.
    a. Evaluate existing facilities/infrastructure and installation / capabilities for application. Ensure National Environmental Policy Act (NEPA) milestones and requirements are updated. See Checklist 3.10.2 for NEPA requirements
    b. Ensure consideration of the proposed target audience (user). This includes the cognitive, physical and sensory abilities i.e., capabilities and limitations of the operators, maintainers, and support personnel that are expected to be in place at the time the system is fielded.
	CJCSI 3170.01I Operation of the Joint Capabilities Integration and Development System
	
	 AFI 63-101/20-101 Integrated Life Cycle Management
	
	 AFI 10-601 Capabilities-Based Requirements Development
	
	 CJCSI 3312.01A Joint Military Intelligence Requirements Certification
	
	 AFI 14-111 Intelligence Support to the Acquisition Life Cycle
	
	 AFI 32-7063 Air Installation Compatible Use Zones (AICUZ)
	
	 AFI 32-7086 Hazardous Material Management
	
	 DoD Environment, Safety, and Occupational Health Network and Information Exchange (DENIX)AFMC/A4 CDD Review Checklist
	
	 DoD Reliability, Availability, Maintainability and Cost Rationale Report (RAM-C) Manual
		Materiel Solution Analysis
		
		 Technical Maturation Risk Reduction

Note: Review Enterprise Logistics Flight Plan (ELFP) for compliance with architecture – creation of System/Technical View document may be required	DoD Guide for Achieving Reliability, Availability, and Maintainability ELFP HSI Requirements Pocket Guide **Sample Documents:** AOA Study Plan ICD Summary TEMP Sample SEP Summary	

EXIT CRITERIA:

Acquisition Program Baseline (APB) for Milestone B
Analysis of Alternatives Report
Technical Maturation Risk Reduction (TMRR)
Clinger-Cohen Certification (updated for Milestone B for Major Automated Information Systems) (MAIS)
Acquisition Strategy
Manpower Estimates
Supportability Objectives
Test and Evaluation Master Plan (TEMP)
System Engineering Plan
Update to CDD

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.23	Develop Supportability Key Performance Parameters (KPPs)	Initial Capabilities Document (ICD) Draft Capability Development Document (CDD) Draft Capability Production Document (CPD) Acquisition Program Baseline (APB) Test and Evaluation Master Plan (TEMP) System Engineering Plan (SEP)

DESCRIPTION:

Key Performance Parameters (KPPs): Those attributes or characteristics of a system that are considered critical or essential to the development of an effective military capability and those attributes that make a significant contribution to the key characteristics as defined in the Joint Operations Concepts (JOpsC). KPPs are validated by the Joint Requirements Oversight Council (JROC) for JROC interest items, and by the DoD component for Joint Integration or Independent documents. Capability development and capability production documents are included verbatim in the APB.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
2. Coordinate with requirements authority regarding supportability requirements 3. Ensure KPPs address system supportability issues such as maintenance man-hours per flying hour and deployment footprint. (i.e. consideration of Support Equipment). Mandatory KPP/KSAs are required (see references). Include usability and other HSI relevant issues in these considerations. 4. Are support related performance and acceptance criteria developed to be demonstrated during planned testing? 5. Ensure Supportability KPPs linked through the capabilities defined in the ICD to the key characteristics from the JOpsC. 6. Ensure Supportability KPPs in the CDD and CPD are inserted verbatim into the APB	DoDI 5000.02 Operation of the Defense Acquisition System (Para 6.c.2) DoD PSM Guidebook Weapon System Acquisition Reform Act Defense Acquisition Guidebook CJCSI 3170-01I Joint Capabilities Integration and Development System (JCIDS) (enclosure A and B) AFI 10-601 Capabilities Based Requirements Development (Chapter 5, Para 5.5) AFI 63-101/20-101 Integrated Life Cycle Management Chapter 6- DoD Reliability, Availability, Maintainability and Cost Rationale Report (RAM-C) Manual Systems Engineering Plan (SEP) Outline DoD LA Guidebook HSI Requirements Pocket Guide **Sample Documents:** ICD Summary TEMP Sample SEP Summary	Technical Maturation Risk Reduction

EXIT CRITERIA:

Input into Draft Capability Development Document (CDD)
Input into Draft Capability Production Document (CPD)
Input into Acquisition Program Baseline (APB)
Input into Test and Evaluation Master Plan (TEMP)
Input into System Engineering Plan (SEP)

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:	
3.24.1	Design Interface for Life Cycle Logistics	CRRA Initial Capability Document Capability Development Document Capability Production Document Systems Engineering Plan Life Cycle Sustainment Plan	

Design interface, is part of the supportability analysis and systems engineering process, relating logistics, design parameters to equipment readiness and support resources requirements. The objective of design interface using Performance Based Logistics (PBL) (DoD 5000.1 E1.17) is to minimize total ownership costs while delivering operational capability. An object of design interface is to perform trade-offs between reliability, maintainability features of the equipment against support system processes. Usability and accessibility of the various systems components should be considered. The PBL minimization forms the object of system engineering analysis with a minimization requirement and the subject to delivering operational capability. Note, that Design Interface is performed iteratively, meaning it is done in each phase of acquisition and recursively meaning that as design is matured it is performed on more detailed understanding of the design, technology and operational use. The Life Cycle Logistician must be a key member in the System Engineering Integrated Product Team (IPT) and the HSI IPT if established.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Strong Participation for Supportability, Sustainment and Product Support in the Program System Engineering Integrated Product Team (SE IPT). Advocate minimum TOC in the SE IPT. 2. Supportability Concepts: Develop with the user, supply chain manager and supporting depot detailed understanding of the maintenance and support concept including all operational limitations and issues. Develop system specification which addresses reliability, maintainability, support equipment, testability (interface with calibration and test equipment specs); deploy ability, mobility, and manpower and personnel estimates. Prepare the Functional Baseline. 3. Supportability Analysis: Interface with the reliability and maintainability program. Perform top down allocation of equipment reliability and maintainability performance requirements while modeling the impact of design decisions on the support processes required for maintaining and sustaining the equipment in its operational use. Maintain records of decisions and analyses supporting justification for design decisions and participate in developing the allocated baseline as well as design test and evaluation for reliability and maintainability performance. Participate in reliability and maintainability test and evaluation and prepare to demonstrate system level logistics capabilities to support the verification processes within system engineering IPT. Develop item development specifications which address reliability, maintainability, support equipment, testability (interface with calibration and test equipment specs); deploy ability, mobility, and manpower estimates. Monitor reliability and maintainability demonstration process as well as reliability improvement activities.	Defense Acquisition Guidebook Chapter 5.2 MIL-HDBK-502 Product Support Analysis AFI 63-101/20-101 Integrated Life Cycle Management DoD 4140.1-M DoD Supply Chain Materiel Management GEIA-STD-0007B Logistics Product Data AFI 32-7063 Air Installation Compatible Use Zones (AICUZ) AFI 32-7086 Hazardous Material Management DoD Environment, Safety, and Occupational Health Network and Information Exchange (DENIX)	Materiel Solution Analysis Technical Maturation Risk Reduction Engineering & Manufacturing Development Operations & Support

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Prepare the Allocated Baseline. Coordinate with the program manager's modeling and simulation process for allocating reliability and maintainability and minimizing total ownership costs. See SLIM Checklist: 2.3.1 4. Interact with specialty engineering that impact product support: • Reliability • Maintainability, accessibility • Testability, • Deployability/Transportability/Packaging • Human Machine Interfaces and usability • Interoperability • Calibration and Metrology • Support Equipment • Standardization • Energy and POL • DMSMS • Environment, Safety, and Occupational Health (ESOH) • System Safety • Noise including Air Installation Compatibility Use Zone • Facilities/infrastructure • Reference SLIM Checklist 2.3.1 5. Ensure Human Systems Integration implications, constraints, and issues are addressed and included in an integrated manner to include the maintainer and support personnel in the overall system design. Supportability Resources: Once the equipment's inherent reliability and maintainability is determined the support resources developed in the trade studies need to be refined, identified, specified and acquired. The results of identifying supportability resources include support equipment recommendation data, provisioning data, etc. acquired in the next process. Supportability Data: Coordinate on engineering data, item development specifications, and maintenance task descriptions, lists of maintenance task assets, facilities requirements, manpower needs and related supportability data requirements. Participate in functional configuration audits and assure that physical configuration audit supports the documentation of supportability requirements. Note: Review the Enterprise Logistics Flight Plan (ELFP) for compliance with architecture – creation of System/Technical View document may be required	ELFP DoD IPS Element Guidebook DoD PBL Guidebook HSI Requirements Pocket Guide AFMCI 24-201 AFMC Packaging and Materials Handling Policies and Procedures DFAR 247.371 DD Form 1653, Transportation Data for Solicitations. HQ AFMC PK Mandatory Procedures Mandatory Procedure (MP) 5347.305, Transportation, Packaging Instructions and Data **Sample Documents:** ICD Summary TEMP Sample SEP Summary LCSP Sample	

EXIT CRITERIA:	

Systems Engineering Plan
Life Cycle Sustainment Plan
System Specification
Allocated Baselines
Functional Configuration Audit
Inputs to TEMP updates

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TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.25	Include Supportability Requirements in the CARD, POE, CCA, ICE, Affordability Assessments	Program Established Acquisition Decision Memorandum (ADM)

DESCRIPTION:

The acronyms above stand for Cost Analysis Requirements Document (CARD), Program Office Estimate (POE), Component Cost Analysis (CCA), and Independent Cost Estimate (ICE). Affordability assessments are done at Air Force level only. Cost estimates cover the entire life cycle of a system and need to adequately address all of the Product Support elements, including disposal, to ensure the total life cycle cost is understood and used for management decisions. The logistician needs to make sure that all of the costs for acquiring; fielding, sustaining, and disposal are included. Major categories of cost are support equipment, technical data, supply support, training and training equipment, depot activation costs (if organic capability to be established), any Interim Contractor Support or Contractor Logistics Support costs to include field service representatives/maintenance activities/inventory management, sustaining engineering costs, depot maintenance, manpower and personnel, Intelligence infrastructure, and organizational/intermediate level maintenance.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Engage as a team member on the Cost Estimating Team (for CARD, POE, CCA, ICE, (FM is normally OPR for this task), and engage as a member on the program Integrated Risk Assessment (IRA) Team. 2. Ensure all 12 Product Support Elements are addressed including Depot Maintenance, O&I Maintenance, testing costs, disposal costs, transportation costs (including Second Destination Transportation), Diminishing Manufacturing Sources and Material Shortages, Facilities/infrastructure, planned modifications / upgrades, Human Systems Integration (HSI), Intelligence, and integration costs if applicable. Specifically address Energy Efficiency and Alternate Fuels considerations. Include any costs for demilitarization, declassification and disposal. 3. Coordinate technical data such as RAM with Engineering. 4. Ensure consistent use of data for other applicable program tasks such as engineering change proposals/contractor change proposals, trade studies, SDT budgeting, and new work packages. Ensure trade studies address: manpower, personnel, training, survivability, habitability, Environment, Safety, Occupational Health, and human factors engineering. Do not let the human aspects get overshadowed by technology needs. Be explicit regarding the consequences – monetary and life cycle – of planned trade-offs so that good decisions can be made. Work with the user on all trade-off decisions. 5. Participate in yearly (or as required) updates of the CARD, POE, CCA, ICE, and IRA activities to reflect any changes in the system data that would reflect in costs changes. 6. During Engineering and Manufacturing Development and Production and Deployment Phases, participate in the annual Centralized Asset Management (CAM) / Centralized Access for Data	AFI 63-101/20-101, Integrated Life Cycle Management Defense Acquisition Guidebook (See Chapters 2,4, and 6 DoDI 5000.02 Operation of the Defense Acquisition System (See Enclosure 7) DoD PSM Guidebook Weapon System Acquisition Reform Act AFMC Guide to the Defense Depot Maintenance Council Cost Comparability Handbook AFPD 23-1 Materiel Management DoDI 4160.28 DoD Demilitarization (DEMIL) Program DoD 4160-28-M Vol. 1 Defense Demilitarization: Program Admin DoD 4160-28-M Vol 2 Defense Demilitarization: DEMIL Coding DoD 4160-28-M Vol 3 Defense Demilitarization: Procedural Guidance DoD DEMIL Web Page CJCSI 3312.01A Joint Military Intelligence Requirements Certification AFI 14-111 Intelligence Support to Acquisition Life Cycle DoD 4140.1-M DoD Supply Chain Materiel Management Centralized Asset Management (CAM) Document Library in the	Materiel Solution Analysis Technical Maturation Risk Reduction Engineering & Manufacturing Development Production & Deployment Operations & Support

Exchange (CAFDEx) requirements build if within 2-3 years of system sustainment utilizing O&M funding. See Task 5.25	United States Air Force Enterprise Information Service Centralized Access For Data Exchange (CAFDEx) CAFDEx Access Instructions Logistics Requirements Determination Process Preservation and Storage of Tooling for MDAPs HSI Handbook AFMCI 24-201 AFMC Packaging and Materials Handling Policies and Procedures DoD Operating & Support Cost-Estimating Guide (dated Feb 2016) **Sample Documents:** CARD Summary	
EXIT CRITERIA:		
Approved IRA, POE, ICE, CCA, other cost estimates that includes product support as described in AFI 63-101/20-101 Source data documentation for appropriate estimate product support elements		

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.27	Include Supportability in the Acquisition Program Baseline (APB)	Initial Capabilities Plan (ICD) Draft Capability Development Document (CDD) Support and Maintenance concept and Technologies In EMD Phase: Capability Production Document Life Cycle Sustainment Plan (LCSP)

DESCRIPTION:

The Acquisition Program Baseline (APB) defines the cost, schedule, benefits, and performance baselines for the acquisition program, should begin during the time the design requirement of the customer are created. It is the mutual agreement between the provider organization, and the user organization concerning the capability and benefits the program will provide and the cost and schedule authorized for the program. The APB also establishes performance metrics for assessing program success and advancing it through the acquisition life cycle. For Baseline Development and Fielding and Operations activities, SDIPTs will develop APBs that specify the end state goals for cost, schedule and performance goals for the overall program . APBs shall document the results of the planning process. All APBs to be executed will be approved by the Milestone Decision Authority (MDA). Planning APBs for out years will be submitted to the MDA but do not require approval. The overall program APB will specify the minimum performance parameters, including KPPs that define the core capability.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Review Sustainment KPP/KSAs 2. Provide input to the Program Management / Services Management Agreement (PMA/SMA) 3. Coordinate with applicable MAJCOM office for requirements (e.g., DR) 4. Review Cost Estimates and work with cost estimating team to calculate Logistics Support portions of Total Ownership Cost (TOC) of the program, (i.e. all costs associated with the research, development, procurement, operation, logistical support, and disposal of an individual weapon system or piece of equipment over its total life cycle; and associated common support items). 5. Ensure the contractor, as a contract deliverable, demonstrates by testing that they have achieved certain supportability/sustainability targets. Note: Review the Enterprise Logistics Flight Plan (ELFP) for compliance with architecture	Defense Acquisition Guidebook AFPAM 63-128 Integrated Life Cycle Management CJCSI 3170.01I Joint Capabilities Integration and Development System (JCIDS) DoD LA Guidebook ELFP **Sample Documents:** ICD Summary LCSP Sample	Technical Maturation Risk Reduction Engineering & Manufacturing Development Production & Deployment

EXIT CRITERIA:

Updated Initial Capability Document (ICD)
Updated CDD
Updated Life Cycle Mgmt Plan (LCSP)
Updated Draft Capability Development Document (CDD)
Updates to APB

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.28	Include Supportability Requirements in the Program Objectives Memorandum (POM) Submission	Acquisition Strategy Strategic Planning Guidance Joint Programming Guidance Analysis of Alternatives (AoA) Plan Supportability Concept and Requirements Source of Repair Assignments Depot Maintenance Plan Product Support Plan

DESCRIPTION:

The POM is a major document in the Planning, Programming, Budgeting and Execution (PPBE) process, and the basis for the component budget estimates. The POM is the principal programming document that details how a component proposes to respond to assignments I the Strategic Planning Guidance (SPG) and Joint Programming Guidance (JPG) and satisfy its assigned functions over the Future Years Defense Program (FYDP).

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Logistician should coordinate with the Program Manager (PM) and Financial Manager (FM) for POM inputs 2. Analyze Acquisition Strategy 3. Interpret Program Supportability needs 4. Develop budget estimates in coordination with PM and FM 5. Resources to conduct HSI activities and ensure user participation shall be identified and allocated as part of the program cost. Specifically include TDY costs for expertise needed outside the program office. 6. For Materiel Solution Analysis and Technical Maturation Risk Reduction phases Identify anticipated sustainment requirements to the Centralized Asset Management (CAM) office (AFMC/A4F Workflow). For AFSPC, ANG and AFRC sustainment requirements also contact the respective organization. 7. For Engineering and Manufacturing Development, Production and Deployment, and Operations and Support phases participate in the annual Centralized Asset Management (CAM) / Centralized Access for Data Exchange (CAFDEx) requirements build if within 2-3 years of system sustainment utilizing O&M funding. See Task 5.25 Note: Items to consider for logistics POM input: Support Equipment (peculiar and common), Packaging, Handling, Storage and Transportation and Asset Marking to include Item Unique Identification (IUID), Specialized engineered containers (design and testing cost), Technical Data, Initial and Replenishment Spares, Diminishing Manufacturing Sources and Material Shortages, Training systems and Training	PPBE Process Paragraph 1.2 Designing and Assessing Supportability in DoD Weapon Systems (A Guide to Increased Reliability and Reduced Logistics Footprint) Entire document provides an overview on life cycle costs. In particular, Chapter 3. AFI 63-101/20-101, Integrated Life Cycle Management AFI 10-601 Capabilities Based Requirements Development This document should be used to support capabilities based support requirements. MIL-HDBK-502 Product Support Analysis Centralized Asset Management (CAM) Document Library in the United States Air Force Enterprise Information Service Centralized Access For Data Exchange (CAFDEx) CAFDEx Access Instructions Logistics Requirements Determination Process Preservation and Storage of Tooling for MDAPs HSI Handbook Product Data Acquisition Guidance DoD 4140.1-M DoD Supply Chain Materiel Management	Materiel Solution Analysis Technical Maturation Risk Reduction Engineering & Manufacturing Development Production & Deployment Operations & Support

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Equipment, Energy Efficiency, Alternate Fuels considerations, Sustaining Engineering, Support for testing programs, CLS/ICS, Second Destination Transportation, Computer Resources and facilities etc.). Include any costs for demilitarization, declassification and disposal. Funding for facilities is through MILCON, done separately from the POM process (Ref checklist 3.11)	**Sample Documents:** AOA Study Plan	
EXIT CRITERIA:		
Budget Estimates		

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.29	Refine Product Support Strategy in LCSP	Draft Capabilities Development Document (CDD) Preferred System Concept Acquisition Decision Memorandum (ADM) Support and Maintenance Concepts and Technologies Analysis of Alternatives (AoA) Market Analysis System Engineering Plan (SEP) Technical Maturation Risk Reduction (TMRR) Cost/Manpower Estimates Life Cycle Sustainment Plan (LCSP) if available

DESCRIPTION:

A Life Cycle Sustainment Plan (LCSP) is a comprehensive document that consolidates the weapon system life cycle acquisition management and product support strategies from materiel solution analysis through reclamation/disposal. It is a document that must be maintained to remain compliant with revised/new DoD policy and statutory requirements. It represents a corporate AF position on how to best execute and manage a specific program and requires participation from all program stakeholders in its development and update.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE

1. Ensures points from checklist 2.15 are updated
2. Ensure guidance in AFPAM 63-128 for LCSP format is followed.
3. Review the CDD for:
  a. System Maintenance/Support Profiles and Use Case Scenarios (Support Capability Packages)
  b. Reliability and Maintenance Rates
  c. Support Environment and Locations for Support
  d. Support and Maintenance Effectiveness
  e. Logistics/supportability input to Key Performance Parameters (KPPs)
  f. Planning for Peculiar and Common Support Equipment (SE)
  g. Planning for Technical Data
  h. Planning for Training
  i. Sections 14 Other DOTMLPF and Policy considerations and 15 Other System Attributes
4. Continue to influence product design with Life Cycle Logistics (LCL) for Affordable System Operational Effectiveness (SOE) showing dependency and interplay between system performance, availability, process efficiency, and system life cycle cost
5. Review preliminary manpower, personnel and training requirements and constraints in both quantity and skill levels
6. Ensure consideration of the proposed target audience (user). This includes the cognitive, physical and sensory abilities i.e., capabilities and limitations of the operators, maintainers, and support personnel that are expected to be in place at the time the system is fielded.
7. Review information and requirements for logistics footprint reductions, (include SE)
	AFPAM 63-128 Integrated Life Cycle Management
	
	Defense Acquisition Guidebook
	
	Integrated Defense Acquisition Technology and Logistics Life Cycle Mgmt Framework ("Wall Chart")
	
	10 USC 2469
	
	10 USC 2466
	
	Acquisition Program Baseline (APB) (bottom)
	
	Affordable System Operational Effectiveness
	
	Configuration Mgmt
	
	Configuration Mgmt 2
	
	Core Logistics Capability
	
	Core Logistics Capabilities (10 U.S.C. 2464)
	
	Cost as an Independent Variable (CAIV)
	
	Data Management
	
	Data Management in Engineering
	
	Demilitarization and Disposal
	
	Environment, Safety, and Occupational Health (ESOH)
	
	Environment, Safety, and Occupational Health (ESOH)
	
	ESOH
	
	Human Systems Integration (HSI)
	
	Human Systems Integration (HSI)
		Technical Maturation Risk Reduction

deployment requirements, other factors affecting the in-theater operational concept
8. Review the operating and support reliability objectives and their corresponding benefits and resource requirements
9. Review the assessment of the concept and technology regarding use of embedded diagnostics, prognostics, and similar maintenance enablers
10. Review data on the projected sustainment demand, standardization of platforms, and required support equipment
11. Identify anticipated direct AF sustainment requirements to the Centralized Asset Management (CAM) office (AFMC/A4F Workflow). For AFSPC, ANG and AFRC sustainment requirements contact the respective organization. If program is within 2-3 years of needing O&M sustainment funding, ensure planning for budget input is accomplished. See Task 5.25
12. Review updated Analysis of Alternatives (AoA) for product support strategy, including alternative operating and system support concepts
13. Ensure the HSI process is used to support generation of a robust plan that considers all human-related domains in an integrated manner. It must be addressed throughout the life cycle, and must be consistently integrated into SE implementation to balance total system performance (hardware, software, and human), and affordability.
14. Include the design and development of the support system utilizing Performance Based Logistics (PBL). Include discussion of PBL methodology for implementation and strategy. Review "PBL: A PM's Product Support Guide" for checklists on key product support issues
15. Review the Rough Order of Magnitude (ROM) Life Cycle Cost Estimates (LCCE) for product support elements
16. Review initial identification of support-related risk and risk mitigation planning for product support
17. Review requirements for providing sustainment during technology-oriented demonstrations
18. Review the product support strategy found in the Acquisition Strategy for:
  a. Life cycle sustainment and continuous improvement of product affordability, reliability, and supportability, while sustaining readiness
  b. Supportability planning, analyses, and trade-offs used to determine the optimum support concept and identify the strategies for continuous affordability improvements
	Industrial Capability
	
	Supply Chain Management
	
	Interoperability
	
	Life Cycle Assessment
	
	Life Cycle Costs
	
	Logistics Footprint Minimization
	
	Market Analysis
	
	MOSA and Interoperability
	
	PBL: A PM's Product Support Guide (All)
	
	PBL
	
	Product Support
	
	Product Support Plan for Information Technology Guide (SWGDO32)
	
	10 USC 2440
	
	Technology Readiness Assessment Deskbook (TRA)
	
	Test and Evaluation Master Plan (TEMP)
	
	Product Support Package
	
	AFI 63-101/20-101 Integrated Life Cycle Management
	
	AFI 99-103 Capabilities Based Test and Evaluation
	
	DoD LA Guidebook
	
	Air Force Strategic Energy and Infrastructure Plan
	
	Centralized Asset Management
	
	Logistics Requirements Determination Process
	
	42 USC 4321
	
	40 CFR 1500
	
	32 CFR 989.3(c)(3)
	
	HSI Handbook
	
	HSI Requirements Pocket Guide
	
	Preservation and Storage of Tooling for MDAPs
	
	DoD Reliability, Availability, Maintainability and Cost Rationale Report (RAM-C) Manual
	
	ELFP
	
	DoD Product Support BCA Guidebook	

c. Interoperability (including MOSA strategy for supply, interoperability, maintainability, and follow-on logistics planning for sustainment)	Next Generation CLS Contract Sustainment Support Guide (CSSG)
19. Review the Technology Readiness Assessment found in the Acquisition Strategy for product support elements	Centralized Asset Management (CAM) Document Library in the United States Air Force Enterprise Information Service
20. Review the Total System Product Support Package for product support concepts that are based on reliability and maintainability of the system	
21. Review the Market Analysis for product support capabilities for achieving support objectives through design and elements of support currently provided by legacy systems and the measures to evaluate support effectiveness	AFPAM 63-113: Program Protection Planning for Life Cycle Management
22. Review the Test and Evaluation Master Plan for supportability and appropriate logistics considerations	**Sample Documents:** AOA Study Plan ICD Summary SEP Summary
23. Refer AFPAM 63-128 for the appropriate PS elements	TEMP Sample Program Protection Plan (PPP) Sample
24. Review the Work Breakdown Structure for deliverable work products and of life cycle logistics considerations	TRA Sample MER Sample
25. Review contracts that perform workloads previously performed by depot-level activities of the DoD, review the Competition Analysis for Depot-Level Maintenance >$3M (refer to 10 U.S.C. 2469)	
26. HQ AFMC certified the source of repair/core determination and 50/50, include approach to developing organic depot repair capability for workloads identified as core (refer to U.S.C. 2466)	
27. Ensure National Environmental Policy Act (NEPA), facilities SRM and MILCON funding requirements are addressed lead time away as applicable.	
28. Review Cost as an Independent Variable for cost estimate. Include any funding shortfalls and discuss current and planned cost reduction initiatives	
29. Review the Acquisition Decision Memorandum for product support exit criteria	
30. Review the Air Force strategic energy and infrastructure plan Note: Review the Enterprise Logistics Flight Plan (ELFP) for compliance with architecture	
31. This task is one in a series to ensure the LCSP is continually updated to address additional information and maturity. Reference checklists 2.15, 2.49, 3.29, 5.32, and 6.10.	

EXIT CRITERIA:
Updated Life Cycle Sustainment Plan Updated Capabilities Development Document (CDD) Updated System Performance Specification

Updated Test and Evaluation Master Plan (TEMP)
Validated System Support and Maintenance Objectives and Requirements
Updated Systems Engineering Plan (SEP)
Updated Information Support Plan (ISP)
Updated Program Protection Plan (PPP)
Updated Public Private Partnership (PPP)
Technology Readiness Assessment (TRA)
Inputs to Integrated Baseline Review (IBR)
Inputs to Acquisition Strategy, Acquisition Program Baseline (APB)
Inputs to Affordability Assessment
Inputs to Cost/Manpower Estimate, Independent Cost Estimate and Manpower Estimate
Inputs to Analysis of Alternatives (AoA)
Inputs to Technical Maturation Risk Reduction (TMRR)
Inputs to Industrial Capabilities, Cooperative Opportunities
Core Logistics Analysis/ Source of Repair Analysis, and Competition Analysis for Depot-Level Maintenance >$3M
Signed LCSP for Milestone B decision

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.30	Review Capability Production Document (CPD) for supportability	Capabilities Based Analysis (CBA) Supportability Objectives CRRA JCIDS DOTMLPF analysis ICD / CDD

DESCRIPTION:

The CPD is the sponsor's primary means of providing authoritative, testable capabilities for the Production and Deployment phase of an acquisition program. A CPD is finalized after Post-CDR Assessment and is validated and approved before the Milestone C acquisition decision. The CPD captures the information necessary to support production, testing, and development of an affordable and supportable acquisition strategy. CPD provides the operational performance attributes necessary for the acquisition community to produce a specific system. The CPD refines threshold and objective values for performance attributes and KPPs that were validated in the CDD.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Participate in the initial development, review and update of the entire CPD for supportability inputs since these inputs are incorporated throughout. Reference the AFMC/A4 CPD Review Checklist. 2. Review data used to support initial JCIDS analysis 3. Understand the operational and threat environment in which capability is exercised and manner in which the capability will be employed. (For Intelligence Reference Appendix A, Checklist 1.1) 4. Analyze operational capabilities and environmental constraints. (For Intelligence Reference Appendix A, Checklist 1.1) 5. Review concept performance definition and verification objectives to include constraints 6. Need to ensure supportability analysis determines cost effective support over system life cycle 7. Ensure requirements include Technical Orders and other Technical Data, Support Equipment, Packaging, Handling, Storage and Transportation; Reliability, Availability, Maintainability (RAM), Cost; production, interoperability and maintainability concepts for inclusion into specifications 8. Ensure Human Systems Integration implications, constraints and issues are addressed and included in the CPD. 9. Ensure ESOH considerations and facets such as mishap hazards, noise hazard, hazardous materials and the associated constraints are addressed. 10. Ensure DOTMLPF analysis includes logistics considerations. If these are not included ensure analysis is performed. a. Evaluate existing facilities/infrastructure and installation / capabilities for application. Ensure National Environmental Policy Act (NEPA) milestones and requirements are updated. See task 3.10.2	CJCSI 3170.01I Operation of the Joint Capabilities Integration and Development System AFMC/A4 CPD Review Checklist AFI 10-601 Capabilities-Based Requirements Development CJCSI 3312.01A Joint Military Intelligence Requirements Certification AFI 14-111 Intelligence Support to the Acquisition Life Cycle DoDI 5000.02 Operation of the Defense Acquisition System Enclosure 12, Para 6 DoD PSM Guidebook Weapon System Acquisition Reform Act DoD Guide for Achieving Reliability, Availability, and Maintainability 42 USC 4321 40 CFR 1500 32 CFR 989.3(c)(3) AFI 32-7063, Air Installation Compatible Use Zones DoD Reliability, Availability, Maintainability and Cost Rationale Report (RAM-C) Manual HSI Requirements Pocket Guide Product Data Acquisition Guidance	Engineering & Manufacturing Development

b. Ensure consideration of the proposed target audience (user). This includes the cognitive, physical and sensory abilities i.e., capabilities and limitations of the operators, maintainers, and support personnel that are expected to be in place at the time the system is fielded.	DoD 4140.1-M DoD Supply Chain Materiel Management AFMCI 24-201 AFMC Package and Material Handling Policies and Procedures **Sample Documents:** ICD Summary TEMP Sample AOA Study Plan	

EXIT CRITERIA:

Acquisition Program Baseline (APB) for Milestone C
Analysis of Alternatives Report
Clinger-Cohen Certification (updated for Milestone C) for Major Automated Information Systems (MAIS)
Acquisition Strategy (updated for Milestone C)
Supportability Objectives
Test and Evaluation Master Plan (TEMP) updated for Milestone C
System Engineering Plan
Capability Roadmap
Manpower estimate

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.32	Participate in the Functional Configuration Audit (FCA) and monitor corrective actions for supportability performance requirements	Development testing reports System Specification Design-to/subsystem specs (Tier II) Program supportability objectives (CDD, KPPs, LCSP, CDRLs)

DESCRIPTION:

The FCA verifies that all requirements established in the specifications, associated test plans, and related documents have been tested and that the item has passed the tests or corrective actions has been initiated. The FCA forms the basis of the allocated baseline. It determines if the system produced is capable of meeting the technical performance requirements established in the specification. Reviews must be planned, managed, and followed up to be effective as an analysis and control tool. This may be done in conjunction with System Verification Review (SVR).

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE

1. Invite Air Logistics Complex (ALC) and or sustainment logistician
 	
2. Obtain a good understanding of supportability requirement in the functional baseline.
 	
3. Understand all the verification methodology for those supportability requirements.
    a. Verify
    b. Test
    c. Demonstration
    d. Analysis
 	
4. Ensure supportability and HSI requirements, to include Environment, Safety, and Occupational Health (ESOH), have been verified and discrepancies have been documented.
 	
5. Follow-up to ensure action items are completed
	System Engineering Fundamentals Guide
	
	Defense Acquisition Guide
	
	ASC/EN Guide: Technical Reviews/Audits for Aeronautical Weapon Systems Acquisition
	
	Guide for FCA-PCA
	
	AFI 63-101/20-101 Life Cycle Systems Engineering
	
	ISO 15288 (for fee service)
	
	DoDI 5000.02 Operation of the Defense Acquisition System Enclosure 12, Para 6
	
	DoD PSM Guidebook
	
	Weapon System Acquisition Reform Act
	
	HSI Acquisition Phase Guide
		Engineering & Manufacturing Development

EXIT CRITERIA:

All supportability requirements have been verified in the FCA and SVR
All supportability requirements have been allocated in the design – to/subsystem specifications which become the allocation baseline.
FCA and SVR minutes
Document Action Items

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.33	Participate in System Verification Review (SVR) and Program Readiness Review (PRR)	Test Readiness Review completed Life Cycle Sustainment Plan Test and Evaluation Master Plan Configuration Management Plan DT&E, LFT&E and Operational Assessments Capability Development Document (CDD) Product and Development Specifications Engineering drawings, Work instructions, Process specifications, Tool drawings, Detailed manufacturing assembly and test processes and Manufacturing test data sheets Contractor version of baseline data package

DESCRIPTION:

SVR is a formal review conducted to verify that the actual item (which represents the production configuration) complies with the performance specification. PRR is a formal examination of a program to determine if the design is ready for production, production engineering, problems have been resolved, and the producer has accomplished adequate planning for the production phase.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Participate on the integrated product team 2. Review desired product support performance attributes 3. Review engineering change proposals or modification requests 4. Ensure designed-in RAM levels are not degraded	Defense Acquisition Guidebook ANSI/EIA 649A For Fee Service MIL-HDBK-61A Configuration Management Guidance AFMC/A4 Data Strategy (and future AF Logistics Data Management Strategy)" Guide for FCA-PCA AFLCMC/EN Guide: Technical Reviews/Audits for Aeronautical Weapon Systems Acquisition ISO 15288 (for fee service) GEIA-STD-0007B Logistics Product Data AFI 63-101/20-101, Integrated Life Cycle Management AFI 99-103 Capabilities Based Test and Evaluation DoD LA Guidebook **Sample Documents:** LCSP Sample TEMP Sample AOA Study Plan TRA Sample SEP Summary	Engineering & Manufacturing Development

EXIT CRITERIA:

Updated Configuration Management Plan
SVR, PRR and/or FCA Minutes
Updated System Engineering Plan (SEP)
Updated Technology Readiness Assessment (TRA)
Updated Test and Evaluation Master Plan (TEMP)
Updated Programmatic Environment, Safety, and Occupational Health Evaluations (PESHE)
Capability Production Document (CPD)

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.37	Package, Handling, Storage and Transportation (PHS&T)	Draft Maintenance Concept Cost Analysis Requirements Description (CARD) Initial Capability Document (ICD) Capability Development Document (CDD) Capability Production Document (PCD) Life Cycle Sustainment Plan (LCSP)

DESCRIPTION:

PHS&T includes the resources and procedures to ensure that all equipment and support items are preserved, packaged, packed, marked, handled, transported, and stored properly for short- and long-term requirements. It includes material-handling equipment and packaging, handling and storage requirements, and pre-positioning of material and parts. It also includes environmental considerations, equipment preservation, packaging level requirements and storage requirements (for example, sensitive, proprietary, and controlled items). This element includes planning and programming the details associated with movement of the system in its shipping configuration to the ultimate destination via transportation modes and networks available and authorized for use. It further encompasses establishment of critical engineering design parameters and constraints (e.g.,, width, length, height, component and system rating, and weight) that must be considered during system development. Customs requirements, air shipping requirements, rail shipping requirements, container considerations, special movement precautions, mobility, security classification, In-transit Visibility and transportation asset impact of the shipping mode or the contract shipper must also be carefully assessed.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Interpret User Needs and implications for TOs, SE PHS&T, Reliability, Availability, Maintainability (RAM), Cost, System Life cycle Integrity Management (SLIM), Production, Interoperability, Supply Support and Maintenance Concept that may be included in specifications. 2. Participate in IPTs that address PHS&T considerations, such as: • System constraints (such as design specifications, item configuration, ESOH risks and impacts, and safety precautions for hazardous material. • Special security requirements. • Geographic and environmental restrictions. • Special handling equipment and procedures. • Impact on spare or repair parts storage requirements. • Emerging PHS&T technologies, methods, or procedures and resource-intensive PHS&T procedures. 3. Ensure packaging requirements are met or addressed. (AFMCI 24-201). 4. Ensure the DoD's computerized Container Design Retrieval System database has been searched to preclude the design of new specialized containers when suitable containers already exist. 5. Ensure military packaging, MIL-STD-2073, has been considered for: • Items that analysis has shown cannot be protected and preserved in a cost-effective manner using commercial packaging. • Items where analysis has shown that military packaging is the optimal packaging solution.	CJCSI 3170.01I Joint Capabilities Integration and Development System AFI 10-601 Capabilities-Based Requirements Development This document support JCIDS process AFI 63-101/20-101, Integrated Life Cycle Management Defense Acquisition Guidebook (See Chapters 3, 4, and 5 AFMCI 24-201 AFMC Package and Material Handling Policies and Procedures (Whole Document) Packaging SharePoint AF Shipping Container Management SharePoint Designing and Assessing Supportability in DoD Weapon Systems (A Guide to Increased Reliability and Reduced Logistics Footprint) See Chapter 3, but scan entire document for further information MIL-STD-2073-E1 Military Packaging	Technical Maturation Risk Reduction Engineering & Manufacturing Development Production & Deployment Operations & Support

- Items delivered during wartime for deployment with operational units.
- Items requiring reusable containers.
6. Ensure packaging intended for international use has been approved by the Department of Transportation.
7. Ensure storage requirements are incorporated into technical publications.
8. Ensure transportation issues are addressed, to include:
  - DD Form 1653: Transportation for Solicitation
  - Oversized/overweight items.
  - Items requiring special transportation modes
  - Items that are classified
  - Import/export requirements for any off-shore procurements
9. Ensure shelf-life requirements have been identified
10. Ensure time delivery requirements from the contractors have been identified.
11. Evaluate the need for carriers to provide near real-time shipment tracking and to provide customer access to their tracking system.
12. Ensure validation testing has been conducted on special packaging
13. Ensure hazardous material packaging has been tested to UN packaging standards in accordance with the requirements listed in the International Air Transport Association Dangerous Goods Regulations and the Code of Federal Regulations (CFR) 29,40,49. Items that do not meet that standard must be coordinated with the prime AFSC PHS&T packaging office that manages the item so a CAA or COE can be written for transportation requirements.
14. Coordinate with DLA Distribution Depot Center (DDC) for PHS&T and Asset Marking to include Item Unique Identification (IUID) Requirements (Reference Task 1.15)
15. Ensure commercial packaging conforms to commercial standard ASTM D3951.
16. Ensure newly designed, specialized containers are added to the Container Design Retrieval System (CDRS) database.
17. Ensure packaging requirements are addressed on AFMC Form 158.
	DoD LA Guidebook
	
	DoD Reliability, Availability, Maintainability and Cost Rationale Report (RAM-C) Manual
	
	AFPAM 63-128 Integrated Life Cycle Management
	
	MIL-HDBK-1791
	
	Transportability CoP
	
	Transportation SharePoint
	
	DTR 4500.9-R Defense Transportation Regulation
	
	Dangerous Goods Regulation Whole Document
	
	Code of Federal Regulations Titles 29, 40, 49
	
	AFI 24-210_IP Packaging of Hazardous Materials
	
	AFMAN 24-204_IP Preparing Hazardous Materials for Military Air Shipments
	
	DDC –http://www.ddc.dla.mil/
	
	DoD 4140.1-M DoD Supply Chain Materiel Management
	
	Air Force Packaging Technology and Engineering Facility
	
	Container Design Retrieval System (CDRS)
	
	Special Packaging Instructions Retrieval and Exchange System (SPIRES)
	
	Preservation and Storage of Tooling for MDAPs
	
	ASTM D3951
	
	HQ AFMC PK Mandatory Procedures 5347.305, Transportation, Packaging Instructions and Data
	
	Sample Documents:
	AOA Study Plan
	ICD Summary
	CARD Summary
	LCSP Sample
	SEP Summary	

EXIT CRITERIA:
Inputs into Analysis of Alternatives (AoAs) Inputs to PHS&T requirements Input into Systems Engineering Plan (SEP) Input into Initial Capabilities Document (ICD)

Inputs to Capabilities Development Document (CDD)
Inputs into Production Capability Document (PCD)
Input/Updates to Life Cycle Sustainment Plan (LCSP)

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.37.1	Develop and Acquire Supportability Data	Capabilities Development Document Supportability Objectives Configuration Management Plan Strategic Source of Repair Decision Maintenance Concept Milestone B Intellectual Property (IP) Strategy (IPS) (in LCSP)

DESCRIPTION:

Supportability data is the foundation for identifying and managing support resources including: supplies, support equipment, technical manuals, training resources and configuration management. Supportability data is acquired as part of the technical data of the weapon system acquisition and contributes to the sustainment processes: data management and configuration management as well as forming the basis for maintenance and supply. Supportability data links the allocated baseline of the weapon system to the physical baseline and integrates technical and engineering data with maintenance and supply data and forms the basis for managing the sustainment of the weapon system.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Consider configuration management approach 2. Integrate Supportability Data into the Intellectual Property (IP) Strategy (IPS). 3. Understand the maintenance concept, operating scenarios, mobility/transportability requirements and other life cycle support requirements contained in the CDD and PMA/SMA 4. Initiate budget for technical data, spares, support equipment, training and system engineering for life cycle logistics and supportability WBS Items 5. Determine Supportability Source Data format requirements. 6. Place GEIA-STD-0007B on contract 7. MIL-HDBK-502 has guidance on LMI Summaries 8. Place Drawing 9579776 on contract 9. Supportability Analysis Summaries (SAS) 10. Tailor DI-SESS81758A, Logistics Product Data to deliver supportability data – Order Logistics Product Data reporting for filing in the PLM for requirements analysis tasks allocating functional baseline requirements for reliability, maintainability, supportability, availability, testability, and support equipment – Order functional analysis Logistics Product Data for results of Maintenance Task Analysis, including results of Failure Modes Effect and Criticality Analysis (FMECA), Reliability Centered Maintenance (RCM), Repair Level Analysis (RLA), and related studies for use in Depot Source of Repair selection and identification of supportability resources and supportability data. 11. Tailor DI-SESS-81759 Logistics Management Information (LMI) Summaries to include Support Equipment Recommendation Data (SERD) 12. Link TMCR 86-01 to LMI data products as well as the PLM approach (Reference Checklist 3.19.1)	Defense Acquisition Guide GEIA-STD-0007B Logistics Product Data Product Data Specification Drawing 9579776 MIL-STD-31000 Detail Specification Technical Data Packages MIL-HDBK-502 Product Support Analysis MIL-STD-961E(1) Defense and Program-Unique Specifications Format and Content DoDI 5000.02 Operation of the Defense Acquisition System Enclosure 12, Para 6.A DoD PSM Guidebook Weapon System Acquisition Reform Act Acquisition Streamlining and Standardization Information System Tool (ASSIST) Quick Search Enter "DI" in the [Document ID] block and click [Submit] button, to generate a list of over 1100 DIDs HAZMAT Plan and Report DIDs: DI-MISC-81397B, Hazardous Material	Technical Maturation Risk Reduction Engineering & Manufacturing Development

13. Link Provision Technical Documents to LMI data products (Tailor DI-SESS-81758A) 14. Tailor DI-SESS-81758A to deliver Support Equipment recommendations 15. Acquire training plans 16. Develop maintenance plans using tailored DI-ALSS-81529 17. Establish integrated digital environment and use interactive workflow to review and manage supportability data 18. Plan transition of supportability data to the supporting ALC 19. Ensure data on hazardous materials both in the weapon system, required for repair, and operations are requested. 20. Determine the capabilities and resources required for software sustainment and identify the required software documentation." 21. Refer to checklist 3.50. Note: Review the Enterprise Logistics Flight Plan (ELFP) for compliance with architecture – creation of System/Technical View document may be required	Management Program Report DI-MGMT-81399B, Hazardous Material Management Program Plan MIL-STD-882E, , Standard Practice for System Safety See paragraph 6.2, for a list of DIDs that may be applicable to a system safety effort ELFP HSI Guide for Contracts (contains HSI relevant DIDs) Product Data Acquisition Guidance	

EXIT CRITERIA:		

Milestone decision approved

Data and information reports for populating product PLM

Source data for Contractor Logistics Supportability Data Checklist 3.50

Technical Reports delivered which reflect results of maintenance task analysis and Reliability Centered Maintenance provide information for selection of Source Maintenance and Recovery (SMR) codes, Spares, support equipment, Technical Manuals, and so forth

Individual Repairable Item Data delivered to support Level of Repair decisions

Technical Reports delivered that detail maintenance plans for all repairable items

Technical Reports delivered which provide source data for Technical Maintenance Data and Technical Orders

Provisioning Technical Data supports supply support

LMI Data Input to Support Equipment Recommendation Data

Technical Reports delivered support Manpower and personnel Estimates and Training Planning

All proper supporting documentation put in the official files

LMI validated at Physical Configuration Audit (PCA) review all support data and assured the data matches the physical system

TASK #	PROCESS NAME:		ENTRANCE CRITERIA:
3.37.2	Address Automated Test Systems (ATS) Acquisition		Support Equipment Recommendation Data or equivalent ATS requirement documentation

DESCRIPTION:

This checklist enables the Program Manager to make an ATS selection for each requirement that fits within the total DoD investment strategy context, i.e., the costs incurred are to be leveraged to the maximum extent possible within a Service and/or across the joint Services spectrum. The Automated Test Systems Acquisition Checklist provides guidance for defining, developing and implementing ATS solutions for logistics support of Air Force weapon systems. This checklist aids in ensuring that ATS requirements are satisfied while minimizing duplication of existing capability and total ownership costs for all weapon systems.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE

1. Identify the weapons system support/test requirements
   a. Test Requirements
   b. Maintenance Requirements (LSA/LSAR)
   c. Operational Requirements
 	
2. Define the various support/test alternatives
   a. DoD ATS Family
   b. Commercial Tester
   c. Existing Service ATS
   d. Other DoD Inventory ATS
   e. Combination of above
   f. New Development ATS
 	
3. Analyze the alternatives
   a. Parametric Analysis (UUT test requirements vs. ATS capabilities)
   b. Operational Assessment
   c. Cost Benefit Analysis
   d. ATS Support Requirements
     i. Special Tools and Support Equipment
     ii. Calibration Requirements (AFMETCAL)
   e. Consider Environment, Safety, and Occupational Health (ESOH) impacts
   f. Consider HSI implications
 	
4. Select the appropriate ATS support alternative
	DoDD 5000.01 The Defense Acquisition System
	DoDI 5000.02 Operation of the Defense Acquisition System Ref. 8c(1)(c)2c
	DoD PSM Guidebook
	DoD Product Support BCA Guidebook
	Weapon System Acquisition Reform Act
	AFPD 63-1/20-1 Integrated Life Cycle Management
	AFI 63-101/20-101 Integrated Life Cycle Management
	DoD ATS Executive Directorate Home Page
	Defense Acquisition Guidebook
	2009 ATS Master Plan
	HSI Requirements Pocket Guide
	DoD ATS Selection Guide (2009)
	Joint ATS MOA (July 2004)
	AFI 99-103 Capabilities Based Test and Evaluation
	AFI 32-7086 Hazardous Material Management
	
	Sample Documents:
	SERD Sample
		Technical Maturation Risk Reduction

EXIT CRITERIA:

ATS Acquisition Strategy

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.37.3	Address Support Equipment Management	Capability Development Document Supportability Key Performance Parameters Product Support Strategy (ref. Life Cycle Sustainment Plan) Mission Assignment Decision Source Of Repair Assignment Process/core/Candidate Depot Decision Systems Engineering Plan System Performance Specification Acquisition Strategy Plan complete

DESCRIPTION:

Definition: Support Equipment (SE) and its associated logistics support, is all equipment (mobile or fixed) required to support operations and/or maintenance of a materiel system. This includes associated multiuse support items, ground-handling and maintenance equipment, tools, metrology and calibration equipment, and manual/Automatic Test Equipment/System (ATE/ATS).

This checklist enables the Program Manager to make a SE selection for each requirement that fits within the total DoD investment strategy context, i.e., the costs incurred are to be leveraged to the maximum extent possible within a Service and/or across the joint Services spectrum. The Support Equipment checklist provides guidance for defining, developing, implementing and sustaining SE solutions for logistics support of Air Force weapon systems. This checklist aids in ensuring that SE requirements are satisfied while minimizing proliferation and total ownership costs for all weapon systems.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Establish SE IPT and DMAWG (checklist 3.6) to include ALC (PSI and SE Manager), Program Office, MAJCOM, AFMETCAL,SE PGM, AFLCMC/WNZ, and Prime Contractor, etc. 2. Minimize the proliferation of system-unique equipment while ensuring the maintenance and deployment requirements of existing and developing systems are met. Acquire SE, to include ATS, that is to the maximum extent common and interoperable with other Services and across multiple weapon systems and munitions. Waivers must be processed and approved through the SE/ATS PGM for all peculiar SE/ATS, PER AFI 63-101/20-101. Submit waivers to the SE/ATS PGM and obtain approval prior to acquiring SE/ATS that are not standard DoD solutions. In the event of waiver disputes, the PEO will resolve prior to procurement. 3. Consider HSI implications. See HSI Requirements Pocket Guide 4. Plan for TO (checklist 6.41.1), support for SE (include all Product Support elements), Supply Support (checklist), Configuration Management, Item Unique Identification (IUID) (Task 2.20), testing and validation/certification, scheduling (checklist 2.37.1). 5. Ensure cost estimate is completed (checklist 2.25). Make POM inputs (checklist 3.28) 6. Process SERD (checklist 3.37.6). Ensure review with SE IPT. 7. Ensure testing is planned and accomplished	FEDLOG Information Center AFI 63-101/20-101 Integrated Life Cycle Management Air Force Equipment Management System AFI 99-103 Capabilities Based Test and Evaluation AFI 32-7086 Hazardous Material Management Preservation and Storage of Tooling for MDAPs HSI Requirements Pocket Guide **Sample Documents:** SEP Summary TEMP Sample	Materiel Solution Analysis Technical Maturation Risk Reduction Engineering & Manufacturing Development Production and Deployment Operations and Support

8. Ensure equipment is delivered and fielded (checklist 5.14)		
9. Plan for Sustainment of Support Equipment (see task 5.49)		
a. Identify additional requirements through the requirements determination process. AFEMS* is updated by MAJCOMs and will feed the D200C* Equipment requirements computation. D200C* is run quarterly and provides requirements data to the SE item manager.		
b. Develop acquisition program for required replacements and to fill new shortages. Address all PS elements during planning stages to ensure supportability of newly acquired SE. Both investment and O&M funded items (checklist 3.37.4)		
c. Input to the budget process by developing Buy/Budget Review Folders requested by D200C* Requirements Control Officer (RCO), investment funded only, O&M support equipment items funded through CAM.		
d. Accomplish required SE modifications by budgeting CCB process		
e. Respond to AFTO 22 requests safety issues or changes by accomplishing required TO update.		
f. Perform required repair actions as dictated through the CAM process See task 5.25		
g. POM inputs- Prepare justification needed to obtain O&M funding to include TDY, supplies, A&AS, BP16, provisioning.		
h. Coordinate Calibration requirements with AFMETCAL (checklist 3.37.4)		
i. Update Technical Order-Plan for TO updates when field submits changes via the AFTO 22 process and changes are approved or new instruments are included in systems. When a new configurations is procured, the TO must be updated.		
j. Obsolete Items Plan for diminishing manufacturing should be addressed by contacting the commodity PM to identify the preferred replacement item.		
k. Modifications		
l. Perform Analysis of Refurbish or Replenish or Replacement when a system is plagued by obsolete items and/or bad actors this analysis should determine if the system needs a mid-life upgrade or there should be a total system replenishment		
m. Disposal-send to DRMO		
n. Consider Environment, Safety, and Occupational Health (ESOH) risks and impacts		
o. Consider HSI implications. See HSI Requirements Pocket Guide pages 6-16		

EXIT CRITERIA:

Supportability Data (Contract Data Requirements List, drawings, Calibration Measurement Requirements Summary, Acceptance Test Procedures, Test Requirements Documents, Test Program Sets,

Incorporated in Integrated Master Plan/Integrated Master Schedule
Updated Test Evaluation Master Plan
Updated Systems Engineering Plan
Under Operations and Maintenance Phase demilitarization and disposal plan

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.37.4	Calibration Support for New Acquisitions	Initiation of all new acquisitions

DESCRIPTION:

Definition: Calibration is a comparison between equipment items, one of which is a measurement standard of known accuracy, to detect, correlate, adjust and report any variation in the accuracy of the other item(s). This checklist reminds the program manager (PM) to consider calibration requirements when initiating a new acquisition. The Air Force Metrology and Calibration Program (AFMETCAL) will assist the PM in a comprehensive review of the weapon system and related support equipment calibration requirements. A comprehensive evaluation of calibration requirements will address verification of system performance parameters from initial acceptance through life cycle maintenance. The USAF has extensive organic calibration capabilities in equipment standards, laboratories (PMELs), and procedures. Life cycle calibration costs for your program or system can be minimized by consulting with AFMETCAL.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Include AFMETCAL when defining supportability requirements. a. Legal Liability concerning calibration 2. Submit a data call to AFMETCAL, send to afmetcal.datacall@us.af.mil for CDRL requirements. Include CDRL requirements in the contract. a. Calibration Measurement Requirements Summary (CMRS) b. Requirement for SERDs c. Calibration procedures and related technical data 3. Include AFMETCAL in the Support Equipment IPT. a. Participate in ILS meetings b. Participate in PDR, CDR, Validation/Verification c. Review CMRS data d. Review SERD data e. AFMETCAL provides input to PM on calibration support concept based on system's accuracy requirements and available calibration standards 4. Public Private Partnerships (PPP) a. Include AFMETCAL when preparing Partnering Agreement (PA)" b. Include AFMETCAL when preparing Statement of Work c. Include AFMETCAL when preparing Implementation Agreement (IA) 5. AFMETCAL will Review Technical Data a. System KPPs b. System CMRS Send to afmetcal.cmrs@us.af.mil c. SE commercial technical data d. SERD data Send to afmetcal.serd@us.af.mil 6. AFMETCAL will evaluate calibration support alternatives a. Vendor Support (CLS) b. User Calibration c. Automated Calibration (PATEC Concept) d. PMEL Supported e. Regional / AFPSL supported f. Hazardous Material usage 7. AFMETCAL will establish and maintain calibration support concept a. Publish calibration authority in TO 33K-1-100 / Weapon System Calibration Measurement Summary (CMS) b. Publish 33K series calibration technical orders	DoDI 5000.02 Operation of the Defense Acquisition System Enclosure 12, Para 6.A, Enclosure 6, Para 1.b DoD PSM Guidebook Weapon System Acquisition Reform Act MIL-STD-1839D Calibration and measurement requirements DI-QCIC 80278B Calibration Measurement Requirements Summary (CMRS) AFI 63-101/20-101 Integrated Life Cycle Management AFI 21-113 Air Force Metrology and Calibration Program TO 00-20-14 Air Force Metrology Program AFI 32-7086 Hazardous Materials Management TO 33K1-100 Calibration Measurement Summaries - See your TODO to order	Materiel Solution Analysis Technical Maturation Risk Reduction Engineering & Manufacturing Development Production & Deployment Operations & Support

c. Assist in Test Program Sets (TPS) development d. Provide life cycle calibration support		
EXIT CRITERIA:		
Assist with acceptance testing of deliverables when appropriate. Establishment of a calibration support concept		

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.37.6	Support Equipment Recommendation Data (SERD) process	ALC (PSI assigned) has to be identified Mission Assignment Process Need for Support Equipment

DESCRIPTION:

Support Equipment Recommendation Data (SERD) – A contract deliverable document that lists recommended specific items of support equipment to support a weapon system or item of equipment. During the acquisition of systems, logistics managers are expected to decrease the proliferation of Support Equipment (SE) into the inventory by minimizing the development of new SE/ATS and giving more attention to the use of existing government or commercial equipment. By including the SE/ATS PGM in the SERD process for common and peculiar items regardless of support strategy, the PGM will ensure that DoD processes for SE and ATS selection are followed. For the purposes of this checklist, AFI 63-101/20-101 uses the terms SERD and waiver interchangeably. SERDs for both common and peculiar SE/ATS must be sent to the PGM regardless of sustainment strategy. In the event of waiver disputes, the PEO will resolve prior to procurement.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. PM contacts Prime Provisioning Activity (PPA), SE and ATS Product Groups, and AFMETCAL 2. PPA, SE/ATS PGs, AFMETCAL will provide applicable Data Item Descriptions (DIDs) for CDRL with attached documentation to PM 3. PM will include SERD CDRL in RFP 4. After contract award PM notifies PPA of contract number 5. Contractor submits SERD to Program Office (PO) 6. SE Manager creates an AFMC Form 603 for each SERD 7. SE Manager distributes SERD package (SERD, AFMC Form 603 and Comments Resolution Matrix (CRM) a. LG functional review of all 12 Product Suppot Elements, Depot Maintenance Activation Working Group (DMAWG), and Maintenance Activation Planning Team (MAPT) reviews b. Program Office ES review c. EN functional review d. PK functional review e. FM functional review 8. SE Manager sends SERD package to MAJCOM(s) and AETC 9. SE Manager sends SERD package to AFSC/LGXC 10. SE Manager sends SERD package for Product Group (PG) review a. AFLCMC/WNZ completes SE PG review b. AFLCMC/WNA completes ATS/ATE PG review c. AFLCMC/WNM completes AFMETCAL review 11. SE Manager sumbits SERD package to 406 SCMS PPA 12. PPA distributes SERD and AFMC Form 603 to stakeholders for review and comments/concurrence 13. PPA returns consoliated AFMC Form 603 to Program Office/SE Manager 14. AFMC Form 9 generated and signed by PO Engineer, SE Manager, and PM 15. PCOL generated and coordinated through leadership and signed by PCO 16. PCOL, AFMC Form 9, and CRM distributed to contractor. AFMC Form 9 and CRM distributed to all government stakeholders. **Primary Stakeholders – SERDs and Support Equipment**	AFI 63-101/20-101 Integrated Life Cycle Management AFR 800-12 (Rescinded, Best Practice) **Sample Documents:** SERD Sample	Technical Maturation Risk Reductiont Production & Deployment

Allowance Standards (AS) Manager: Evaluates the Basis of Issue (BOI) for items to be included in the allowance document. Determines and provides notification of the applicable weapon system TRC and the Program Depot Maintenance (PDM) authorization source code of the applicable AS. Returns the annotated AFMC Form 603 to the Prime Provisioning Authority (PPA) for stakeholder consolidation.

Calibration (AFMETCAL): Provides Calibration Measurement and Requirement Summaries (CMRS) if required for the piece of SE. Determines if inclusion in CMRS data item is required or not required. Determines if additional Test Measurement Diagnostics Equipment (TMDE) is required for calibration support of the recommended SE. Returns the annotated AFMC Form 603 to the SE Manager for stakeholder consolidation.

Inventory Manager Specialist/Materiel Manager: Determines how the item is to be managed and assigns the Method of Support (MOS) code on the AFMC Form 603 and returns it with name, office symbol and phone number to the Prime Provisioning Authority (PPA) for stakeholder consolidation.

Equipment Specialist: The ES determines/identifies if a similar item already exists in the government inventory (or may be modified) that will satisfy the requirement in lieu of acquiring the recommended piece of SE. If non-concurring with the SERD gives the reason and the substitute part number/stock number desired. Nonoccurrence requires notification to the ES who manages the SE, and the provisioning office will make the notification. Verifies the SMR code (or changes it, as desired), provides correct IMC, DEMIL, ADPEC, PMIC codes. If CFE SE, the ES will assign a temporary stock number in D143C System and enter this NCC Number on the AFMC Form 603. Annotates requirements for a RIPPL, Technical Order and software for new SE. Returns the annotated copy of the AFMC Form 603 to the SE Manager for stakeholder consolidation.

Lateral Provisioning Offices: Receives SERD package from the PPA via e-mail for review/coordination by their ES and IMS/MM (duties as described above). Upon completion, the AFMC Form 603 is returned to the PPA for stakeholder consolidation.

Provisioning Specialist: Receives the SERD package electronically from the PO, assigns a Registry Control Number (RCN), prepares the file folders, includes a copy of the D043A screening and forwards the SERD package for Item Manager and Allowance Standard Manager reviews. Also provides a SERD Data Sheet (on new contracts) to the SE Manager, giving names of stakeholders. Upon receipt of PCL for SERDs requiring a RIPPL, it is the responsibility of the PO to request a Cost Proposal from the Contractor for submittal of the RIPPL. Consolidates replies and sends SERD package back to SE Manager. Sends AFMC Form 9 to DLA LIS for NSN assignment.

Quality checks all replies, making sure there are no conflicting responses, consolidates the replies on the AFMC Form 603.

Sends the completed AFMC Form 603 to the SPO electronically, and requests a completed AFMC Form 9 (suspense: 15 days).

Upon receipt of the AFMC Form 9, forwards a copy to all the stakeholders and files a copy in the folder. If a RIPPL is required, requests the Program Manager complete a PCL in IRD and notify the SERD Coordinator of the Application Program Designator (APD). Upon receipt, the SERD Coordinator prints a copy of the PCL for the file and provides a copy to the PS. **System Program Office SE Manager(SPO):** Serves as the focal point for distribution, review, and approval of SE recommendations. Ensures requirements for SE recommendations and other required SE support capability are placed on contract. Coordinates with engineering, logistics, contracting, finance and other functional experts as required. Ensures SERDs received from the contractor are reviewed, generates AFMC Form 603, and coordinates with the SE/ATS Product Groups, MAJCOMs, and AETC. Obtains SE/ATS PG approval prior to procurement of peculiar SE. Performs a technical review of the SERD and determines if similar equipment already exists in the government inventory. Provides approved/disapproved AFMC Form 9 to the contractor with a copy to all stakeholders. **Technology Repair Center (TRC):** Reviews the SERD to ensure the SE requirements are included and to determine if quantities, support dates, and acquisition policies are compatible with present and planned workloads. If an additional or a lesser quantity is required other than what the contractor recommends, provides the quantity and a justification. Returns the annotated AFMC Form 603 to AFSC/LGXC for stakeholder consolidation. **Using Commands:** Reviews the SERD to ensure the SE requirements are included and to determine if the quantities, support dates, and acquisition policies are compatible with present and planned workloads. If an additional or a lesser quantity is required other than what the contractor recommends, provides the quantity and a justification. Returns the annotated AFMC Form 603 to the SE Manager for stakeholder consolidation. **Automatic Test Systems Product Group (AFLCMC/WNA):** Peforms life cycle management responsibilities for common ATS/ATE. Performs a technical review of the SERD and determines if a similar item already exists in the government inventory. Returns the annotated copy of the AFMC Form 603 to the SE Manager for stakeholder consolidation. **Common Support Equipment Product Group (AFLCMC/WNZ):** Peforms life cycle management responsibilities for common SE. Performs a technical review of the SERD and determines if a similar item already exists in the government inventory. Returns the annotated copy of the AFMC Form 603 to the SE Manager for stakeholder consolidation.		
EXIT CRITERIA:		
SERD with final disposition		

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.37.13	Develop a Diminishing Manufacturing Sources and Material Shortages (DMSMS) Program	Systems Engineering Plan (SEP) Acquisition Strategy Life Cycle Sustainment Plan (LCSP)

DESCRIPTION:

Diminishing Manufacturing Sources and Material Shortages (DMSMS) is the loss or impending loss of manufacturers of items or suppliers of items or raw material DMSMS is caused when manufacturers of item or raw material suppliers discontinue production.

The objective is to reduce the impact of DMSMS by identifying and resolving DMSMS issues to ensure the continued availability of items and essential materials needed to support current and, when possible, planned defense requirements, by distributing notices, migrating legacy architectures toward an Open Systems Architecture, and providing DMSMS tools for the single manager. This checklist provides guidance for defining, developing, implementing and sustaining DMSMS solutions for logistics support of Air Force weapon systems. This checklist aids in ensuring that DMSMS program requirements are satisfied while minimizing proliferation and total ownership costs for all weapon systems.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Ensure understanding of the Program data acquisition strategy. To establish a DMSMS program engineering design data must be available down to piece/part level 2. Ensure the Program Manager addresses the need for a DMSMS program at the appropriate level. The Program Manager will identify a DMSMS program manager within the program. 3. Develop DMSMS program plan down to piece/part level. Ensure you coordinate with the logistician, engineer, DLA rep, OEM, financial manager, contracting officer and support contractors. 4. Review and update the DMSMS program plan annually or as required. 5. Ensure DMSMS issues are addressed in the: • Acquisition Strategy • Life Cycle Sustainment Plan (LCSP) • Systems Engineering Plan (SEP) • All design reviews (PDR, CDR, SVV, etc.) • Applicable software functionality • Provisioning Conference • Program Objective Memorandum and Budgetary cycles • Program Cost Estimates • Weapon System Support Program (WSSP) 6. Accomplish appropriate DMSMS training; courses include: • DAU CLL-201 • DAU CLL-202 • DAU CLL-203 • DAU CLL-204 7. The DMSMS program manager will review technology product life cycle phase used in the	DMSMS Guide Book SD-22 DoD 4140.1-M DoD Materiel Management AFMCI 23-103 Diminishing Manufacturing Sources and Material Shortages Program AFI 21-118 Improving Air and Space Equipment Reliability and Maintainability Chapter 2 AFMCI 63-1201 Implementing Operational Safety, Suitability and Effectiveness (OSS&E) and Life Cycle Systems Engineering DLA One Book Industrial Capabilities Section AFI 63-101/20-101 Integrated Life Cycle Management Defense Acquisition University N291 AFI 23-101 Air Force Materiel Management DoD Environment, Safety, and Occupational Health Network and Information Exchange (DENIX) **Sample Documents:** LCSP Sample SEP Summary POM Summary RFP Summary	Technical Maturation Risk Reductiont Engineering & Manufacturing Development Production & Deployment Operations & Support

design for obsolescence. This will include at minimum a review of the developers preferred parts list.		
8. Execute the DMSMS program plan. This will include the use of Government Industry Data Exchange Program (GIDEP) and predictive tool(s)		
9. Maintain awareness of emerging contaminants from the DoD Environment, Safety, and Occupational Health Network and Information Exchange).		
10. When entering the Production and Deployment phase, ensure that the appropriate contract language requires the developer to implement DMSMS best practices.		
11. When entering the Operations and Support phase the maintenance and operational concepts will drive DMSMS program implementation. The DMSMS program manager will establish a multi-functional team for an organic maintenance program. Ensure all Performance-Based Logistics (PBL) or Contractor Logistics Support (CLS) contracts contain language requiring an active DMSMS program.		
12. The program manager must be aware of all potential changes in maintenance and support concepts I.E. CLS to Organic, for DMSMS implications.		

EXIT CRITERIA:

DMSMS program plan
Updates to SEP
Updates to LCSP
Program Objective Memorandum and Budgetary inputs
Program Cost estimate inputs
Inputs to Request for Proposal (RFP) section L&M and Contract Data Requirements List (CDRL) for technical data

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.37.14	Develop Supply Support Strategy	Approved CONOPS Contract Awards Initial Capabilities Document (ICD) Capability Development Document (CDD) Configuration Control Board (CCB) established

DESCRIPTION:

Supply Support consists of all management actions, procedures, and techniques necessary to determine requirements to acquire, catalog, receive, store, transfer, issue and dispose of spares, repair parts, and supplies. This means having the right spares, repair parts, and supplies available, in the right quantities, at the right place, at the right time, at the right price. The process includes provisioning for initial support, as well as acquiring, distributing, and replenishing inventories

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Understand the product support strategy, maintenance concept and CONOPS a. Performance-Based Logistics (PBL) b. Public-Private Partnership (PPP) c. Contractor Logistics Support (CLS) d. Organic Standard Base Supply System (SBSS) e. Interim Contractor Support (ICS) f. Interoperability considerations 2. Include the supply support technical requirements in the Statement of Objectives (SOO) / Request for Proposal (RFP). Ensure data rights are included in the RFP. 3. Review the Depot Source of Repair (DSOR) and Source of Repair Assignment (SORA) Process decision for possible impacts to supply. 4. Establish for inventory control points 5. Ensure supply cost requirements are input to the cost estimate, Program Objective Memorandum (POM), Centralized Asset Management (CAM) and budgeting annually or as required. a. Initial and replenishment spares b. Spares for support and training equipment c. Readiness Spares Package (RSP) d. Depot Level Repair (DLR) and Depot Purchased Equipment Maintenance (DPEM) e. Spares to support planned test programs f. Spares requirements for classified non-reporting bases g. Reclamation 6. Ensure Total Asset Visibility (TAV) is addressed (RFID, Item Unique Identification (IUID), Serialized Item Management (448SCMW).	AFI 63-101/20-101 Integrated Life Cycle Management PBL Guide DoD 4140.1-M DoD Materiel Management AFI 23-101 Air Force Materiel Management TO 00-25-195 AFTO Source, Maintenance, and Recoverability Coding of AF Weapons, Systems and Equipment DoD 2010.4 Entire Instruction Applies AFPD 23-1 Materiel Management Policy and Procedures AFI 23-120 AF Spares Requirements Review Board AFMCI 23-101 AF Provisioning Instruction AFMCI 23-111 Reclamation of Air Force Property 10 USC 2464 10 USC 2466 AFI 23-101 Air Force Materiel Management AFMCMAN 23-3 Cataloging and Standardization	Materiel Solution Analysis Technical Maturation Risk Reduction Engineering & Manufacturing Development Production & Deployment Operations & Support

7. Participate in the Provisioning Guidance Conferences and Provisioning Conferences. Ref provisioning checklist	AFI 23-106 Assignment and use of Standard Reporting Designators
8. Participate in Weapon System Support Program (WSSP) if weapon system uses Defense Logistics Agency (DLA) parts.	AFI 32-7086 Hazardous Material Management
9. Assign and maintain Standard Reporting Designators (SRD)	AFI 32-7042 Waste Management
10. Acquire initial, replenishment and pre-operational supply support.	MIL-HDBK-245 Preparation of Statement of Work (SOW)

a. Establish stock levels as required
   b. Ensure Packaging, Handling, Storage and Transportation (PHS&T) has been addressed
   c. Use Military Interdepartmental Purchase Request (MIPR)
   d. Ensure DLA and AF cataloging requirements are included in the RFP
	Statement of Objectives (SOO) Information Guide
	
	ELFP**Sample Documents:**
	
	LCSP Sample
	POM Summary
	ICD Summary

11. Manage supply sustainment	

a. Ensure as a minimum 2-years prior to FY for transition that the SRRB templates have been submitted (MSD).
   b. Ensure as a minimum 2-years prior to FY for transition that appropriate templates have been completed and submitted (GSD).
   c. Ensure quarterly computations for buy and repair actions are occurring. For organic supply support this will occur after acceptance into WCF.
   d. Establish Requirements Data Exchange List (RDEL) requirements to Primary Inventory Control Activity (PICA)	

12. Plan for and execute demilitarization and disposal of assets	
13. Participate in Configuration Control Boards (CCB) and take appropriate supply support actions as required	
14. Establish Military Standard Requisitioning and Issue Procedures (MILSTRIP) authority as required	
15. Consider hazardous material risks and other ESOH considerations during PHS&T and disposal of spares	
Note: Review the Enterprise Logistics Flight Plan (ELFP) for compliance with architecture – creation of Operational / System / Technical View document may be required	

EXIT CRITERIA:
Provide input for LCSP update Inputs to POM, budget, CAM and cost estimates All tasks identified in the AFMC Form 718 completed Data in WSSP workbench updated

Source of Repair Assignment Process (SORAP) as required

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.37.15	Contract Data Requirements List (CDRL)	Initial Capability Document (ICD) Capability Development Document (CDD) Capability Production Document (CPD) Acquisition Strategy Life Cycle Sustainment Plan (LCSP) System Engineering Plan (SEP) Statement of Work (SOW)

DESCRIPTION:

The purpose of the Contractor Data Requirements List (CDRL) is to control the generation of data requirements to ensure effectiveness and economy in support of systems and equipment. Contractor data includes all administrative, management, financial, scientific, engineering, and logistics information and documentation listed in DD Form 1423 for delivery or deferred delivery to the Air Force. Data Item Descriptions (DID) define the data required of a contractor and specifically defines the data content, preparation instructions, format, and intended use.

The CDRL provides the standard format for identifying potential data requirements in a solicitation and deliverable data requirements in a contract. The CDRL gives delivery instructions for the data and instructions for tailoring out unnecessary DID requirements. The CDRL, when made part of the solicitation, shall include every known and anticipated data requirement. The offerors are asked to provide a price estimate for each technical data requirement. The CDRL corresponds to the DD Form 1423, DD Form 1423-1 and DD Form 1423-2 in Section J of the RFP.

A data call is the formal procedure used by the data manager to acquire data requirements for a given program. A Data Requirements Review Board (DRRB) will review and recommend approval or disapproval of data requirements. This board is normally comprised of functional representatives having significant data requirements.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE

1. Participate with cross-functional team in the development of the technical data acquisition strategy.
  a. Contact the designated appropriate logistics organizations regarding data calls activities
  b. Ensure all aspects of the program, including the operational and maintenance concepts, acquisition strategy, etc. are made known to the appropriate logistics organizations
2. Respond to the data requirements call issued by the Program Manager, Data Manager or other responsible official by identifying the minimum essential data requirements for logistics.
  a. Identify all logistics data activities that require data
  b. Screen incoming data requests from logistics functional areas to make sure their data requirements have been tasked by the SOW and consolidate any duplicate or overlapping data requests
  c. Make sure data requests are contained in ASSIST
  d. Contact data requesters and ask about the possibility of delaying/deferring data delivery, using contractors' format and discuss their justification for the data
3. Provide input to the DRRB or equivalent; be prepared to defend each logistics data request.
4. Validate approved DIDs are included in the contract
	DoD 5010.12-M, Procedures for the Acquisition and Management of Technical Data
	
	MIL-STD-963C, Data Item Descriptions (DIDs)
	
	Acquisition Streamlining and Standardization Information System Tool ASSIST Quick Search - Enter "DI" in the [Document ID] block and click [Submit] button, to generate a list of over 1100 DIDs
	
	DoDI 7750.07 DoD Forms Management Program
	
	TM-86-01, Technical Manual Contract Requirements
	
	Data Management Info Sheet
	
	OC-ALC Data Management Presentation
	
	AF FORM 585
	
	DD Form 1423
	
	DD Form 1423-1
		Materiel Solution Analysis
		
		Technical Maturation Risk Reduction
		
		Engineering & Manufacturing Development
		
		Production & Deployment
		
		Operations & Support

5. Notify appropriate logistics organizations of any changes in the program (requirements, schedules, budgets, etc.) in order to assess the impact on data needs 6. Consider a CDRL for facilities requirement plan 7. For follow-on contracts, notify appropriate organizations what data has already been acquired; data manager should have a complete data list delivered during previous phases.	DD Form 1423-2 Product Data Acquisition Guidance **Sample Documents:** LCSP Sample SEP Summary ICD Summary RFP Summary	

EXIT CRITERIA:
Data Requirements for Request For Proposal (RFP) Finalized CDRL

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.47.1	Accomplish Support Equipment (SE) Guidance Conference	Capability Development Document (CDD) Supportability Key Performance Parameters Product Support Strategy (ref. Life Cycle Sustainment Plan) Mission Assignment Decision Source Of Repair Assignment Process / core / Candidate Depot Decision Systems Engineering Plan (SEP) System Performance Specification Contract Award (EMD) Contract Award (LRIP) Contract Award (FRP)

DESCRIPTION:

Support Equipment must be considered and identified (developed if necessary) to support the product support strategy developed during a program's Engineering and Manufacturing Development (EMD) phase, which, is the time frame a program should consider for SE guidance to the contractor. An SE Guidance Conference is accomplished to: ensure the contractor appropriately relates SE to government contractual requirements, the system concept of operations (CONOPS) and maintenance concept are understood, and to ensure DoD guidance and policy for SE acquisition is understood and complied with. Moreover, the information shared and the dialogue established between the contractor and all government SE players, at a guidance conference, will greatly enhance the responsiveness to the end item user and reduce SE proliferation. When it makes economical and program sense, similar guidance efforts could be held for other logistics or program elements and should be considered for joint guidance conferences.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Participate in the Support Equipment Guidance Conference 2. Ensure the following Topics are included in the Guidance Conference Discussion. (not in priority order) – Air Force (and other DoD and Joint Services, as applicable) program points of contact. – Program overview – Operations concept (CONOPS) overview – Maintenance concept overview – Training concept overview – Packaging, Handling ,Storage and Transportation perspective, as it relates to SE – Provisioning process and procedures for SE – Data requirements documentation SE recommendation data (SERD or equivalent): o Formats (provide samples as required) o Contract performance requirements (delivery schedule) o Deliverable median(s) o Receiving organizations and number of copies o Government review and approval process o Calibration requirements, Air Force Metrology Calibration (AFMETCAL) – Procedures for obtaining Government Furnished Property (GFP-MAT). – Criteria for coding GFP and Contractor Furnished Equipment (CFE) – SE delivery means and requirements – MIL-HBK-300, or equivalent, use by contractor	AFI 63-101/20-101 Integrated Life Cycle Management DoDI 5000.02 Operation of the Defense Acquisition System DoD PSM Guidebook DoD Product Support BCA Guidebook Weapon System Acquisition Reform Act AFPAM 63-128 Integrated Life Cycle Management AFPD 63-1/20-1 Integrated Life Cycle Management DoD ATS Executive Directorate Home Page DoDD 5000.01 The Defense Acquisition System	Technical Maturation Risk Reduction Engineering & Manufacturing Development Production & Deployment Operations & Support

– Government screening of recommended SE – Classification and categories of SE – Technical manuals for SE – Procedures for obtaining Air Force publications. – Support Equipment Plan (if applicable) – Other Logistic elements, design interface, human systems integration for SE – Contractor's process for identifying and selection of SE supporting system design – Life cycle cost analysis / Cost Benefit Analysis (as applicable) – Instructions to interrogate various data banks and SE sources of information – Air Force (other Services) Preferred Items – Lists of standard and modified hand tools – Specific discussions on Automatic Test Equipment / Systems (ATE / ATS) process – Government preferred order of SE selection – Environment, Safety, and Occupational Health (ESOH) and Alternative Fuels 3. Recommended Air Force and DoD Participants - Note: Include Other Joint Service organizations, as applicable, for a program chaired by PM, Logistics Manager or PSI, as appropriate – Program Office System Program Manager (PM) – Program Office Logistics Manager – Program Office Support Equipment Manager (if applicable) – Air Logistics Complex (ALC) system and SE specialized Support Equipment Manager(s), as applicable – SE/ATS Program Manager – Provisioning activity Product Support Integrator (PSI) / End Article Item Manager (EAIM) ALC – Engineering and reliability representative (Program Office/PSI/EAIM ALC) – Packaging materials handling branch (PM / EAIM ALC), as applicable – Equipment allowance specialist (ALC) – AFMETCAL representative – Lead command, using command(s) (inclusive of Air Education and Training Command (AETC), as applicable). – Technical Repair Center (TRC) maintenance representative, as applicable – HQ AFMC equipment management representative, as applicable. – DoD Cataloging and Standardization representative 4. Discuss support planning for common and peculiar support equipment.	Defense Acquisition Guidebook 2009 ATS Master Plan DoD ATS Selection Guide (2009) Joint ATS MOA (July 2004) AFMCI 23-104 Functions and Responsibilities of the Equipment Specialist During Provisioning AFI 32-7086 Hazardous Material Management Executive Order 13423 HSI Acquisition Phase Guide AFMCI 24-201 AFMC Packaging and Materials Handling Policies and Procedures **Sample Documents:** LCSP Sample SEP Summary SERD Sample	

EXIT CRITERIA:

Updates to System Engineering Plan (SEP)
Clear understanding of Support Equipment process (government and prime contractor) schedules and milestones to support Test Program, RAA, IOC, FOC, for all levels of maintenance
Inputs to Support Equipment Plan (if standalone Plan is developed)
Inputs/updates to LCSP
Contractual inputs/changes, as required to address SE acquisition

Minutes of SE Guidance Conference
Identification of SE candidates
Establish specific SE points of contact for contractor and government
Tailor Support Equipment Recommendation Data (SERD), if required

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.47.2	Provide Logistics Support During the Deficiency Reporting (DR) Process	Test Readiness Certification Contract Identification of Deficiency

DESCRIPTION:

A Deficiency Report (DR), has broader application than quality - is the DoD-wide process to record, submit and transmit deficiency data on materiel which poses (or is expected to pose) a mission impact. "Materiel" includes software and hardware products from Air Force Materiel Command or Space Command. DRs are submitted on the SF 368 or equivalent format, and typically through the Joint Deficiency Reporting System (JDRS)."

Category I Deficiency - Category I deficiencies are those which may cause death, severe injury, or severe occupational illness; may cause loss or major damage to a weapon system; critically restricts the combat readiness capabilities of the using organization; cause or can cause a production line stoppage.

Category II Deficiency - Category II deficiencies that impede or constrain successful mission accomplishment but do not meet Category I criteria). They may also be conditions that improve a system's operational effectiveness or suitability.

Other categories of deficiencies are contained in TO 00-35D-54.

This checklist is not all inclusive for the DR process during various phases of an acquisition and sustainment program but is meant to focus upon DR tasks a logistics manager would be involved in.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. During organization stand up: – Take the appropriate framework of courses from the Deficiency Reporting, Investigation and Resolution (DRI&R) Training Program SharePoint – Through HQ AFMC/A4F create your JDRS unit and obtain a DoD Address Accession Code (DODAAC) – Obtain a JDRS account through https://jdrs.mil 2. Understand TO 00-35D-54 and the local DR process 3. Become a participating member of the review team. 4. Review proposed DR for supportability and human related considerations and impacts. 5. Initiate actions to ensure supportability considerations are implemented as required. (See 3.47.3 CCB Checklist if required) 6. Follow local exhibit management, storage and processing procedures. 7. Make appropriate changes to system documentation i.e.; • Technical Orders • Spares • Support Equipment • Calibration 8. If Intelligence sensitive program ensure Intelligence is involved	TO 00-35D-54 USAF Deficiency Reporting, Investigation, and Resolution MIL-HDBK-61A Configuration Management Guidance AFI 63-101/20-101 Life Cycle Systems Engineering ANSI/EIA 649A For Fee Service Joint Deficiency Reporting System (JDRS) DRI&R Training Program SharePoint SF 368 Deficiency Report CJCSI 3312.01A Joint Military Intelligence Requirements Certification AFI 14-111 Intelligence Support to the Acquisition Life Cycle	Technical Maturation Risk Reduction Engineering & Manufacturing Development Production & Deployment Operations & Support

EXIT CRITERIA:

DR Disposition
Identify supportability trends

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.47.3	Participate in the Configuration Control Boards (CCB)	Identification of Deficiency Design Change(s) (Hardware/Software/Firmware/Interface) Technology Insertion

DESCRIPTION:

The purpose of CCB is to assist in planning for and implementing effective DoD configuration management activities and practices during all life cycle phases of defense systems and configuration items. It supports acquisition based on performance specifications, and the use of industry standards and methods to the greatest practicable extent. Activities and practices include:
- Configuration Identification
- Configuration Control
- Configuration Status Accounting
- Configuration Verification and Audit
- Data Management

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Understand MIL-HDBK-61A, local and contractor CCB process. 2. Become a participating member of the CCB team. 3. Review proposed changes for consideration and impacts to: a. Supportability (Product Support Elements) b. Humans (HSI domains and integration) c. DOTMLPF 4. Initiate actions to ensure supportability considerations are implemented as required 5. Follow local exhibit management, storage and processing procedures for changes 6. Make appropriate changes to system documentation i.e.; a. Technical data (Drawings, TO, Data, etc.) b. Spares c. Support Equipment d. Calibration	MIL-HDBK-61A Configuration Management Guidance AFI 63-101/20-101 Life Cycle Systems Engineering ANSI/EIA 649A AFI 63-101/20-101 Integrated Life Cycle Management AFI 63-131 Modification Management AF Form 3525 CCB Modification Requirements and Approval Document AFMC Form 518 Configuration Control Board Directive	Technical Maturation Risk Reduction Engineering & Manufacturing Development Production & Deployment Operations & Support

EXIT CRITERIA:

Identify supportability Issues
Verified changes incorporated in all affected items, documents
Status accounting data base appropriate to each phase
Configuration Management-competent contractor base
Configuration Management process performance measured and continuously improved
Lesson learned
CCB Recommendations and Disposition

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.47.4	Accomplish Spares Provisioning Guidance Conference	Spares acquisition CLIN on contract

DESCRIPTION:

During this conference, the contractor(s) is alerted of the provisioning requirements for the production contract. Sufficient details on the provisioning documentation and data submission media and procedures will be provided so that the contractor(s) can provide realistic responses to the RFP or RFQ. This communication between the Air Force and the contractor(s) can provide the Contracting Office with topics to negotiate during the production contract negotiations. This provides a responsive and effective provisioning effort. The guidance conference provides an opportunity for explanation of the current logistics concept or plan applicable to the system/end article under contract as well as the techniques and methods used by the Air Force in requirements determinations. This conference should result in a mutual understanding, and reduce some of the more crucial problems inherent in provisioning, such as:

Improperly prepared Provisioning Technical Documentation (PTD).
Delinquent submission of PTD.
Inadequate/omitted Supplemental Data for Provisioning (SDFP).
Incomplete or invalid recommendations by the contractor.
Late scheduling of the provisioning conference and the resulting delivery of the initial support.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Establish a firm date and location with the contractor or prospective contractor(s). 2. Prepare and distribute, on a timely basis, the conference notification, AFMC Form 771. If sufficient time is not available to insure delivery of the conference notification by mail, the notification will be issued by message. 3. Develop agenda and furnish a copy with each AFMC Form 771 distributed. 4. Prepare or review tentative milestone dates for the provisioning actions. 5. Obtain qualified personnel for detailed discussions such as; Engineers, Equipment Specialist, Item Manager, Production Manager, Packaging, Using Command and DLA representative. 6. Obtain a copy of the Initial Provisioning Performance Specification (IPPS) with attachments and applicable programming checklists available for the conference. 7. Hold a closed Air Force familiarization meeting before conducting the conference to: a. Review proposed agenda for the conference. b. Resolve any difference of opinion. c. Establish or review the rules of conduct to be in effect during the conference. d. Recognize and resolve any questions/discussions that relate solely to internal Air Force affairs so as to avoid undue embarrassment. e. Achieve an Air Force position. f. Meeting chairperson may invite other government agencies such as DLA or have a separate government only meeting. 8. Review the maintenance and support concept strategies.	AFMCI 23-101 Air Force Provisioning Instruction, Chapter 6.2 AFMC Form 771 Conference Notification	Technical Maturation Risk Reduction Engineering & Manufacturing Development Production & Deployment Operations & Support

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9. Request contractor to hold a briefing on the system/end article on contract. The briefing should generally include: a. Design/maintainability/reliability. b. Operation requirements. c. Equipment capabilities. d. Organizational structure in relation to manufacture, delivery, and logistics support. e. Tour of manufacturer's area if conference is held at the contractor's facility. f. Contractor(s) proposed Provisioning Performance Schedule (PPS). 10. Government agrees to PPS.		

EXIT CRITERIA:

Approved Provisioning Performance Schedule

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.50	Evaluate Contractor Delivered Data (Including COTS and CDRLs)	Contract Award CDRLs on contract Test and Evaluation Management Plan (TEMP) Support and Maintenance Concept and Technologies Technical Maturation Risk Reduction (TMRR) Set Product Support Strategy

DESCRIPTION:

Provides examples and guidance to evaluate data delivered under the Contractor Data Requirements List placed on contract for logistical support. A formal, system-level review conducted to ensure that system requirements have been completely and properly identified and that a mutual understanding between the government and contractor exists.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Coordinate with program IPTs to ensure contractor(s) meet supportability requirements contained in contract deliverables (i.e. CDRLs). 2. Determine COTS requirements 3. Verify contractor meets CDRL deliverables. Some examples of types of CDRLs are: • DI-CMAN-81254A, Request for Nomenclature • DI-SESS-81000B, Product Drawings and Associated Lists • DI-MGMT-80004, Management Plan • DI-ILSS-81089, Training Facilities Report • DI-ILSS-81070, Training Program Development and Management Plan • DI-ILSS-80872, Training Materials • TMCR, TM-86-01, Technical Manuals • DI-MISC-81454A Automated Computer Program Identification Number Data and Control Record • DI-ILSS-80134A, Proposed Spare Parts List • Review applicable documentation against product support strategy such Life Cycle Sustainment Plan, Validate Systems Support and Maintenance Objectives and Requirements, SEP, etc.) Note: The DIDs listed above are only samples of what a program may need to be logistically supportable. 4. Prepare for Milestone B or C decision as appropriate 5. Update Acquisition Plan for Source Selection	Systems Engineering Fundamentals Entire document provides an overall on Systems Engineering. See Chapter 19 for Contracting information. MIL-HDBK-502 Product Support Analysis MIL-STD-963C DoD Standard Practice Data Item Deliverables (DIDS), DoD IPS Element Guidebook & DoD PSM Guidebook Defense Acquisition Guidebook DoD LA Guidebook Acquisition Streamlining and Standardization Information System Tool ASSIST Quick Search - Enter "DI" in the [Document ID] block and click [Submit] button, to generate a list of over 1100 DIDs Product Data Acquisition Guidance	Technical Maturation Risk Reduction Engineering & Manufacturing Development Production & Deployment and O&S Phases

EXIT CRITERIA:

Demonstrated Product Support Capability
Updated Acquisition Contract

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:	
3.50.1	Manage Technical Order Acquisition Program	Capability Development Document (CDD) Maintenance Strategy Product Support Strategy Technical Manual Contract Requirements (TMCR) Document, TM-86-01	

DESCRIPTION:

Technical order requirements must be progressively monitored and updated to ensure completion and delivery concurrent with the equipment or hardware. The organization or individual assigned TO acquisition responsibility is called the Technical Order Manager. This checklist gives instruction on how to manage a technical order acquisition program from development of the strategy to sustainment of the formal manuals.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE

1. Refine a *TECHNICAL ORDER LIFE CYCLE SUSTAINMENT PLAN (TO LCSP).*as soon as feasible.
2. Once a TO acquisition program is established and a contract awarded, begin managing the activities involved with delivery of preliminary and formal technical manuals. The TO Manager and Contractor will:
  a. Perform TO Guidance Conference
  b. Number and index TOs as required. See TO Numbering and Indexing Process Flow.
  c. Perform In Process Reviews (IPR) as required by the contract.
  d. Monitor contractor TO certification process.
  e. Contractor will update preliminary TOs as they are reviewed and certified.
  f. Contractor will submit proposed Commercial off the shelf (COTS) manuals for government evaluation and acceptance as required.
  g. Contractor will deliver certified, preliminary TOs IAW the TMCR.
3. Verification planning is a critical step in the acquisition process of preparing and delivering adequate and accurate TOs that meet the needs of the users. Verification planning decisions will be documented in a *TECHNICAL ORDER LIFE CYCLE VERIFICATION PLAN (TOLCVP)* prepared by the TO manager.
4. The TO Manager will ensure verification is performed and documented IAW TO 00-5-3 and the *TECHNICAL ORDER LIFE CYCLE VERIFICATION PLAN (TOLCVP).* Contractor support will be IAW TM-86-01.
5. The TO Manager will perform pre-pub reviews as required IAW TO 00-5-3 and TMCR.
6. Contractor will deliver formal TOs IAW the TMCR
7. Contractor will develop and deliver formal TO updates if required by the TMCR.
	TO 00-5-3 Air Force Technical Manual Acquisition Procedures
	Develop TO strategy
	TO 00-5-18 AF Technical Order Numbering System
	Enhanced Technical Information Management System (ETIMS)
	ETIMS is the prescribed method of accessing the 00-5 series of TOs. To request access, users should send an e-mail to af.todo1@eglin.af.mil which identifies their full name, AF portal ID and the TOs or TO Series to which access is required
	Technical Order Contract Requirements
	TO Delivery Requirements
	TM 86-01 Air Force Technical Manual Contract Requirements
	Manage TO Acquisition Program
	TO Verification Planning
	TO Verification
	MIL-PRF-32216
	TO Numbering and Indexing Process Flow
	AFI 63-101/20-101 Integrated Life Cycle Management
	AFI 65-601 Vol. 1 Budget Guidance and Procedures
	
	Sample Documents:
	TMCR Sample
		Technical Maturation Risk Reduction
		
		Engineering & Manufacturing Development
		
		Production & Deployment

8. Budget (POM) for TO sustainment 2 years prior to transition to the ALC (if applicable).		

EXIT CRITERIA:		
Delivery of formal TOs. Development of Technical Order Life Cycle Management Plan (TOLCMP) Development of Technical Order Life Cycle Management Plan (TOLCVP) Development Technical Manual Contract Requirements (TMCR)		

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.50.4	Establish and Manage Training Systems	Acquisition Strategy approved Training System Requirements Analysis (TSRA) completed Life Cycle Sustainment Plan (LCSP) completed Systems Engineering Plan (SEP) completed Contract awarded

DESCRIPTION:

Responsible for developing and sustaining aircraft training systems to train aircrew and maintenance students. The program uses the four Training System Requirements Analysis Reports to identify and assign the mandatory training tasks to both the maintenance and aircrew training devices. The devices and training materials are built, tested, approved and delivered to the government. After delivery, the devices and training materials are maintained using contractor logistics support and updated to keep concurrent with aircraft modifications. The following checklist represents a standardized training system program tasks. Depending on the scope of the program, these tasks maybe removed if not applicable.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Design of training devices meets contractual specification requirements via the following milestones: a. Systems Requirements Review b. Preliminary Design Review c. Critical Design Review 2. Consider HSI implications 3. Training devices are tested to ensure compliance with contractual specifications. Two phases of testing include: a. Government In-plant testing b. On-site Acceptance testing c. Final device certification 4. Training Devices are sustained via the following: a. Contractor Logistics Support b. Simulators Division Agile Combat Support Directorate (AFLCMC/WNS) 5. Ensure all facilities requirements are identified and tracked to include any facility modifications and National Environmental Policy Act (NEPA) actions 6. Ensure all manpower and personnel requirements are identified and planned for. REF checklist 3.10.1 7. Ensure training system sustainment is addressed in the product support strategy for the life of the system. 8. Ensure training systems requirements are documented in the System Training Plan, and updated annually for the entire life cycle. Note: If a concurrent training device is not delivered prior to the first production aircraft a waiver is required to be documented in the Milestone Decision Review prior to Milestone C	AFI 36-2251 Management of Air Force Training Systems AFI 63-101/20-101 Integrated Life Cycle Management AFPAM 63-128 Integrated Life Cycle Management Performance Based Logistics CoP 42 USC 4321 40 CFR 1500 32 CFR 989.3(c)(3) **Sample Documents:** LCSP Sample SEP Summary	Technical Maturation Risk Reduction Engineering & Manufacturing Development Operations & Support All

EXIT CRITERIA:

Devices and training materials delivered and used for training
Annual sustainment contract options set up
Annual training and instruction contract options set up
Training System Support Center tracking device baselines and also incorporating minor modifications into devices

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TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.51	Identify and Plan Supportability Requirements for the TEMP	Test and Evaluation Master Plan (TEMP) Live Fire Test Strategy Initial Capabilities Document (ICD) (Draft) Capability Development Document (CDD) (Draft) System Engineering Plan (SEP) Support and Maintenance Concept and Technologies

DESCRIPTION:

A comprehensive plan of developmental and operational testing to determine system suitability and readiness for delivery to operational users.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Ensure sustainment KPP/KSAs are fully tested, analyzed, and assessed within the TEMP to meet acceptance criteria. 2. Ensure product support strategy and CONOPs are assessed for operational safety, suitability and effectiveness. 3. Ensure TEMP assesses product support readiness to include training for maintenance and operators. 4. Ensure TEMP assesses system logistics footprint. 5. Ensure TEMP assesses product support facility and infrastructure requirements. 6. Ensure TEMP assesses maintenance procedures, to include technical manual development and data availability. 7. Ensure TEMP assesses support equipment suitability (to include calibration requirements) and compatibility with system maintenance concept 8. Ensure TEMP assesses on-equipment vs. off-equipment maintenance tasks. 9. Ensure TEMP assesses system size and weight, permitting economical handling, loading, securing, transporting, and disassembling for shipment, to include handling hazardous materials. 10. Ensure TEMP includes the means to assess future logistics initiatives, due to cost reduction, technical maturation risk reduction, etc. 11. Ensure TEMP includes Intelligence support concept and technologies. 12. Ensure TEMP includes appropriate considerations for Environment, Safety, and Occupational Health (ESOH), the National Environmental Policy Act (NEPA), and addresses chemicals of emerging regulatory interest. 13. Ensure TEMP includes plans for site cleanup and asset disposition following test. 14. Ensure TEMP includes specific identified or unique HSI considerations. 15. Ensure TEMP assesses design interface. 16. Ensure TEMP assesses supply support. 17. Ensure TEMP assesses maintenance planning and management 18. Ensure TEMP assesses manpower and personnel. 19. Ensure TEMP assesses computer resources.	Defense Acquisition Guidebook Chapter 9 AFPD 99-1 Test and Evaluation Process DoD Guide for Achieving Reliability, Availability, and Maintainability Paragraphs: 1.5.1, 2.3.3, 2.3.5, 4.6, 5.4.1, 5.5.3) AFI 99-103 Capabilities Based Test and Evaluation CJCSI 3312.01A Joint Military Intelligence Requirements Certification AFI 14-111 Intelligence Support to the Acquisition Life Cycle DoDI 5000.02 Operation of the Defense Acquisition System Enclosure 12, Para 6.A DoD PSM Guidebook Weapon System Acquisition Reform Act AFI 63-101/20-101 Integrated Life Cycle Management 42 USC 4321 40 CFR 1500 32 CFR 989.3(c)(3) **Sample Documents:** ICD Summary LCSP Sample SEP Summary TEMP Sample	Technical Maturation Risk Reduction Engineering & Manufacturing Development Production & Deployment Operations & Support

20. Ensure TEMP assesses sustaining/system engineering.		
21. Ensure TEMP assesses protection of critical program information and anti-tamper provisions.		
22. Ensure TEMP assesses Logistics System Test and Evaluation (LST&E) – The test methodology, criteria and tools for evaluating and analyzing the logistics support elements (DAG)/product support elements (AFPAM 63-128) as they apply to a system under test. The objective is to influence system design as early as possible in the acquisition cycle and verify that the logistics support being developed is capable of meeting peacetime and wartime employment objectives.		

EXIT CRITERIA:

Approved/Updated TEMP

Updated Live Fire Test Strategy
Updated Initial Capabilities Document (ICD)
Updated Capability Development Document (CDD)
Updated System Engineering Plan (SEP) (including HSI, if not identified as a separate plan)
Updated Product Support Strategy in the Life Cycle Sustainment Plan
Updated Support and Maintenance Concept and Technologies

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.54	Participate in System Requirements Review (SRR) (System Specification)	Initial Capabilities Document (ICD) Draft Capability Development Document (CDD) Analysis of Alternatives (AoA) Test and Evaluation Master Plan (TEMP) System Engineering Plan (SEP) Support and Maintenance Concept and Technologies Technical Maturation Risk Reduction (TMRR) Life Cycle Sustainment Plan (LCSP) Draft System Specification SRR (Demo) Minutes, if applicable Threat assessment baseline from Intelligence

DESCRIPTION:

A formal, system-level review conducted to ensure that system requirements have been completely and properly identified and that a mutual understanding between the government and contractor exists.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Coordinate with lead engineer regarding supportability requirements 2. Review applicable documentation against product support strategy such as system maintenance concept, significant system design criteria (reliability, maintainability, logistics requirements, System Life cycle Integrity Management (SLIM) requirements, layout drawings, conceptual design drawings, selected supplier components data, etc.) 3. Ensure product support requirements satisfy the ICD or draft CDD. (For Intelligence Reference Appendix A, Checklist 1.1) 4. Ensure that the system supportability requirements are consistent with the preferred system solution 5. Understand the approach and methods planned for use in arriving at a balanced set of requirements to include product support (manpower, personnel, training, reliability, supportability, life cycle cost analysis, etc.). 6. Ensure Energy Efficiency, Environment, Safety, and Occupational Health (ESOH), Noise (ambient and occupational) and Alternate Fuels are considered. 7. Ensure HSI implications, constraints and issues are adequately addressed by the requirements for the planned operational and sustainment concepts 8. Ensure provisioning concepts and strategies are compatible with maintenance concept 9. Ensure contractual requirements levy the need for detailed facility requirements data 10. Participate in site survey development and input into the Facility project books 11. Provides an overview of government and contractor data rights for the system to include what key technical information and data will be developed during this phase	Systems Engineering Fundamentals System Requirements Review Procedures MIL-HDBK-502 Product Support Analysis Navy Acquisition Guide ISO 15288 (for fee service) GEIA-STD-0007B Logistics Product Data AFI 63-101/20-101, Integrated Life Cycle Management AFI 99-103 Capabilities Based Test and Evaluation CJCSI 3312.01A Joint Military Intelligence Requirements Certification AFI 14-111 Intelligence Support to the Acquisition Life Cycle AFI 32-7086 Hazardous Material Management AFI 32-7063, Air Installation Compatibility Use Zone DoDI 5000.02 Operation of the Defense Acquisition System DoD PSM Guidebook Weapon System Acquisition Reform Act	Technical Maturation Risk Reduction

12. Review the technical approach reflect the capabilities, concepts of operation and support, and required attributes 13. Understanding requirements driving the preferred system concept, including: potential statutory and regulatory requirements, supportability requirements, training requirements, life-cycle cost requirements, and other design considerations 14. Review applicable operational effectiveness analyses to understand the linkage between overall operational effectiveness, weapon system performance, and execution of an effective product support strategy 15. Establish a consistent set of objectives for readiness and logistics parameters 16. Conduct trade-offs among design, support concepts, and support resource requirements. 17. Participate in market research for supportability attributes of potential commercial products; assess impact of deployment, evaluate support alternatives 18. Ensure logistics decisions and risk identified and are incorporated into the minutes Note: Review the Enterprise Logistics Flight Plan (ELFP) for compliance with architecture – creation of Operational/System/Technical View document may be required.	HSI Requirements Pocket Guide HSI Acquisition Phase Guide ELFP **Sample Documents:** AOA Study Plan ICD Summary LCSP Sample SEP Summary	

EXIT CRITERIA:
Updated Capability Development Document (CDD) Updated Analysis of Alternatives (AoA) Updated System Engineering Plan (SEP) Updated Life Cycle Sustainment Plan (LCSP) Test and Evaluation Management Plan (TEMP) or equivalent Technology Readiness Assessment (TRA) System Performance Specification SRR (Sys Func Spec) Minutes

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.58	Participate in System Functional Review (SFR)	Capabilities Development Document (CDD) Acquisition Program Baseline (APB) Life Cycle Sustainment Plan (LCSP) Test and Evaluation Master Plan (TEMP) System Engineering Plan (SEP) Validated System Support and Maintenance Objective Requirements Draft System Performance Specification System Functional Specification System Verification Plan Functional Analysis and Allocation of Requirements Technical Performance Measurement data and analysis Updated threat assessment baseline from Intelligence

DESCRIPTION:

A formal review of the conceptual design of the system to establish its capacity to satisfy requirements. It establishes the functional baseline.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Participate in refining the system functional baseline for supportability 2. Review applicable documentation against product support strategy such as system maintenance concept, significant system design criteria (reliability, maintainability, logistics requirements, layout drawings, conceptual design drawings, selected supplier components data, etc.) 3. Ensure provisioning concepts and strategies are compatible with maintenance concept 4. Understanding the linkage between overall operational effectiveness, weapon system performance, and execution of an effective product support strategy 5. Ensure intelligence interests are addressed. Reference Appendix A, Checklist 1.1 6. Ensure Energy Efficiency, Environment, Safety, and Occupational Health (ESOH), Noise (ambient and occupational) and Alternate Fuels are considered. 7. Ensure Human Systems Integration implications, constraints and issues are addressed and included in the design sufficient to ensure that those tasks and functions allocated to humans actually match the functional capabilities of the operators, maintainers and sustainers with the total system to optimize system effectiveness 8. Conduct trade-offs among design, support concepts, and support resource requirements. 9. Ensure the system functional requirements satisfy the Capability Development Document for product support 10. Ensure adequate product support processes and metrics are in place for the program to succeed 11. Identify product support risks known and manageable for development 12. Ensure the Cost Analysis Requirements Description is consistent with the approved functional baseline for product support	DoDI 5000.02 Operation of the Defense Acquisition System Enclosure 12, Para 6.A DoD PSM Guidebook Weapon System Acquisition Reform Act Defense Acquisition Guidebook Systems Engineering Fundamentals System Requirements Review Procedures MIL-HDBK-502 Product Support Analysis MIL-HDBK-61A , Configuration Management Guidance (Tables 4.2-4.3) ASC/EN Guide: Technical Reviews/Audits for Aeronautical Weapon Systems Acquisition System Functional Review Procedure (Gunter) AFI 99-103 Capabilities Based Test and Evaluation Navy Acquisition Guide ISO 15288 (for fee service) GEIA-STD-0007B Logistics Product Data HSI Requirements Pocket Guide	Technical Maturation Risk Reduction

13. Participate the system functional baseline been established to enable proper configuration management for product support Note: Review the Enterprise Logistics Flight Plan (ELFP) for compliance with architecture – creation of Operational/System/Technical View document may be required	HSI Acquisition Phase Guide AFI 63-101/20-101, Integrated Life Cycle Management DoD LA Guidebook CJCSI 3312.01A Joint Military Intelligence Requirements Certification AFI 14-111 Intelligence Support to the Acquisition Life Cycle AFI 32-7063, Air Installation Compatible Use Zones ELFP **Sample Documents:** CARD Summary LCSP Sample TEMP Sample SEP Summary	

EXIT CRITERIA:

Updated Technical Performance Measurement Data
Updated Life Cycle Sustainment Plan (LCSP)
Updated System Engineering Plan
System Functional Baseline
Updated Life Cycle Cost Analysis
Updated Test and Evaluation Management Plan, or equivalent
Updated Acquisition Program Baseline
Update Cost Analysis Requirement Description (CARD)
Supplier data describing specific components
Updated documentation (technical orders; commercial manuals; preliminary materials, parts, and processes; analyses; reports; trade studies; logistics support analysis data; etc.
SFR minutes

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.59	Participate in Preliminary Design Review (PDR)	Capabilities Development Document Technical Performance Measurement Data Life Cycle Sustainment Plan (LCSP) System Engineering Plan System Performance Specification System Allocated Baseline Cost Analysis Requirements Description Life Cycle Cost Analysis Test and Evaluation Management Plan Acquisition Program Baseline Supplier data describing specific components Equipment layout drawings and preliminary drawings (includes proprietary or restricted data) Existing documentation (technical orders; commercial manuals; preliminary materials, parts, and processes; analyses; reports; trade studies; logistics support analysis data; etc. Successful completion of all SRR action items Applicable CDRLs Updated threat assessment baseline from Intelligence

DESCRIPTION:

A formal review that confirms the preliminary design logically follows the System Functional Review findings and meets the requirements. It normally results in approval to begin detailed design. For complex systems, the program manager may conduct a PDR for each subsystem or configuration item, leading to an overall system PDR. When individual reviews have been conducted, the emphasis of the overall system PDR should focus on configuration item functional and physical interface design, as well as overall system design requirements.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Review progress of long-lead time support equipment items and Support Equipment Recommendation Data (SERD) procedures 2. Review the Reliability, Availability, Maintainability (RAM), Cost to include support equipment items 3. Review calibration requirements 4. Describe technical manuals and data availability to include support equipment. 5. Verify compatibility of proposed support equipment with the system maintenance concept 6. Verify on-equipment vs. off-equipment maintenance task trade study results to include support equipment impacts 7. Review updated list of required support equipment 8. Review Level 1 engineering drawings for ease of conversion to higher levels 9. Review repair rate sources and prediction methods 10. Identify design changes that will permit a greater use of standard or preferred parts and evaluate the trade-offs 11. Review Program Parts Selection List and status of all non-standard parts identified 12. Determine if design meets contracts requirements governing size and weight to permit economical handling, loading, securing, transporting, and disassembly for shipment. Identify potential	DoD Systems Engineering Fundamentals ASC/EN Guide: Technical Reviews/Audits for Aeronautical Weapon Systems Acquisition DoD LA Guidebook CJCSI 3312.01A Joint Military Intelligence Requirements Certification AFI 14-111 Intelligence Support to the Acquisition Life Cycle DoDI 5000.02 Operation of the Defense Acquisition System Enclosure 12, Para 6.A DoD PSM Guidebook	Technical Maturation Risk Reduction Engineering & Manufacturing Development

outsized and overweight items. Identify system/items defined as being hazardous and ensure compliance with hazardous materials regulations. 13. Review Transportability Analysis to determine that transportation conditions have been evaluated 14. Determine understanding of the background, purpose, requirements, and usage of Maintenance Data Collection, historical/status records and methods of providing maintenance, failure, reliability, maintainability data 15. Review plans for Work Unit Coding of the equipment 16. Review logistics and provisioning planning to insure full understanding of scope of requirements to include provisioning requirements, GFP usage, and spare parts, and support during installation, checkout, and test 17. Ensure Energy Efficiency, Environment, Safety, and Occupational Health (ESOH), Noise (ambient and occupational) and Alternate Fuels are considered. 14. Ensure Human Systems Integration implications, constraints and issues are addressed and included in the design sufficient to ensure that those tasks and functions allocated to humans actually match the functional capabilities of the operators, maintainers and sustainers with the total system to optimize system effectiveness 18. Review plans for maximum screening and usage of GFP, and extent plans have been implemented 19. Review status of the Technical Manual Publications Plan to include availability of technical manuals for validation and verification during DT&E testing 20. Evaluate the training system/simulator item development specifications and facilities / infrastructure impacts 21. Ensure logistics decisions and risk identified and are incorporated into the minutes 22. Ensure intelligence interests are addressed. Reference Appendix A, Checklist 1.1 Note: Review the Enterprise Logistics Flight Plan (ELFP) for compliance with architecture – creation of Operational / System / Technical View document may be required.	Weapon System Acquisition Reform Act AFI 32-7086 Hazardous Material Management AFI 32-7063, Air Installation Compatible Use Zones DoD Reliability, Availability, Maintainability and Cost Rationale Report (RAM-C) Manual ELFP HSI Requirements Pocket Guide HSI Acquisition Phase Guide **Sample Documents:** CARD Summary LCSP Sample TEMP Sample SEP Summary	

EXIT CRITERIA:

Established system allocated baseline
Updated risk assessment for EMD
Updated Cost Analysis Requirements Description (CARD) based on the system allocated baseline
Updated program schedule including system and software critical path drivers
Updated Life Cycle Sustainment Plan (LCSP)
Updated Test and Evaluation Management Plan (TEMP)
Updated System Engineering Plan (SEP)
Acceptance of CDRLS due at PDR
Requirements Traceability Matrix
PDR Minutes

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
3.62	Prepare Documentation for Milestone B	Determination that MSD for MS B is required Initial Capabilities Document Capability Development Document

DESCRIPTION:

There are two types of decision points: milestone decisions and decision reviews. Each decision point results in a decision to initiate, continue, advance, or terminate a project or program work effort or phase. The review associated with each decision point typically addresses program progress and risk, affordability, program trade-offs, acquisition strategy updates, and the development of exit criteria for the next phase or effort. The Milestone Decision Authority approves the program structure, including the type and number of decision points, as part of the acquisition strategy. Milestone B initiates engineering and manufacturing development. Per 10 USC 2366A the MDA must provide a signed certification memorandum for record prior to Milestone B approval. There shall be only one Milestone B per program. Entrance into this phase depends on technology maturity (including software), approved requirements, and funding. Unless some other factor is overriding in its impact, the maturity of the technology shall determine the path to be followed. Programs that enter the acquisition process at Milestone B shall have an ICD that provides the context in which the capability was determined and approved, and a CDD that describes specific program requirements

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
Review and make inputs to applicable documents required by statute or regulation before milestone decision	Milestone B Documentation DoDI 5000.02 Operation of the Defense Acquisition System Enc. 4 DoD PSM Guidebook Weapon System Acquisition Reform Act AFPD 63-1/20-1 Integrated Life Cycle Management 10 USC 2366 Replaced System Sustainment Plan Summary AFMCI 24-201 AFMC Packaging and Materials Handling Policies and Procedures	Technical Maturation Risk Reduction

EXIT CRITERIA:

Milestone decision approved
All proper supporting documentation put in the official files

TASK #	PROCESS NAME:		ENTRANCE CRITERIA:	
4.11	DLA Weapon System Support Program (WSSP)		Milestone B Decision	
DESCRIPTION:				
This checklist gives instructions on actions required to ensure DLA WSSP matters are included in weapon system support planning activities.				
CHECKLIST SUBTASKS:				
TASK		**SOURCE DOCUMENTATION**		**PHASE**
1. Ensure WSSP Focal (WSFP) point is assigned.		AFI 23-101 Air Force Materiel Management		Engineering & Manufacturing Development
2. WSFP will nominate weapon system for Weapon System Designator Code (WSDC) assignment.				Production & Deployment
3. Load, Change, and Delete items by National Stock Number (NSN) into DLA WSSP as required.				Operations & Support
EXIT CRITERIA:				
DLA support is no longer needed for weapon system being supported / removed from service.				

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
4.15	Ensure data to support System Life cycle Integrity Management (SLIM) is addressed	Capabilities Development Document (Maintenance Concept) Maintenance Data Requirements Systems Specifications Depot Source of Repair (DSOR) Technical Orders

DESCRIPTION:

SLIM is the integration of Weapon System Improvement Program (WSIP), Condition Based Maintenance (CBM+), Reliability Centered Maintenance (RCM), Aircraft Information Program (AIP), and Reliability, Availability and Maintainability (RAM) efforts. The purpose is to implement standardized engineering processes/tools associated with optimizing resources and increasing proactive system monitoring and performance assessment leading to product improvement throughout the system life cycle.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Develop and update plans to monitor and assess systems performance - Plan to collect, store and maintain usage, maintenance and sensor data - Identify data access rights to assure/facilitate data management and analysis - Identify and implement standardized diagnostics, prognostics and R&M tools - Establish feedback processes to link operations and maintenance to engineering and Life cycle management 2. Identify existing and planned system architecture to analyze and integrate Productivity Improvements e.g.,, WSIP, Military Flight Operations Quality Assurance (MFOQA), RAM, RCM and CBM+ efforts - All algorithms, models, analyzes, test reports, metric control limits, etc. must be treated as configuration controlled items and an impact assessment accomplished for every configuration change, maintenance change, or operational usage change. - When feasible, implement the use of existing WSIP, RAM, CBM+, and business intelligence (BI) data systems. 3. Identify Influence resource allocation requirements To plan, program and budget for Productivity Improvements 4. Monitor design progress for implementing diagnostics, prognostics and continuous process improvement activities 5. Transition CBM+, RAM, WSIP, RCM/MSG-3, HVM, AIP, and MFOQA	AF SLIM Guide DoD CBM+ Guidebook AFMCI 21-103 Reliability Centered Maintenance DoD RAM Guide DoD Reliability, Availability, Maintainability and Cost Rationale Report (RAM-C) Manual CJCSI 3170.01I Joint Capabilities Integration and Development System MIL-HDBK-515 Weapon System Integrity Guide (WSIG) MIL-STD-1530C Aircraft Structural Integrity Program (ASIP) AFI 63-140 Aircraft Structural Integrity Program (ASIP) MIL-STD-3024 Propulsion System Integrity Program (PSIP) MIL-STD-1798 Mechanical Equipment and Subsystems Integrity Program (MECSIP) AFPD 63-1/20-1 Integrated Life Cycle Management AFI 90-1301 Implementing Military Flight Operations Quality Assurance (MFOQA) AFI 90-1301 Implementing Military Flight Operations Quality Assurance (MFOQA) AFMC Supplement	Engineering & Manufacturing Development Production & Deployment

requirements into the Request for Proposal (RFP), Contracts Data Requirements List (CDRL), Performance Based Statement of Work (PBSOW), Source Selection criteria and evaluation factors, and cost evaluation factors for the LRIP, Interim Contractor Support (ICS), Performance Based Logistics (PBL), and FRP contracts of the acquisition effort.	AFH 63-1402, Aircraft Information Program DoDI 4151.22 Condition Based Maintenance + (CBM+) for Materiel Maintenance AFI 63-101/20-101 Life Cycle Systems Engineering (Atch 6/7, Maintenance Engineering/Sustaining Engineering and Product and System Integrity) AFI 63-101/20-101, Integrated Life Cycle Management Product Data Acquisition Guidance	

EXIT CRITERIA:

Designed Components for condition monitoring and state detection incorporated in the Systems Specifications
Integration and Improved diagnostics/health assessment and Maintenance Plans/Technical Orders
Prognostics incorporated during design in the Systems Specifications/Technical Orders
Mechanisms for the assessment of remaining useful life of selected weapons/components, etc. as documented in the Systems Specifications

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
4.64	Prepare Documentation for Milestone C	Determination MS C is required Capability Production Document Information Support Plan Test and Evaluation Master Plan

DESCRIPTION:

There are two types of decision points: milestone decisions and decision reviews. Each decision point results in a decision to initiate, continue, advance, or terminate a project or program work effort or phase. The review associated with each decision point typically addresses program progress and risk, affordability, program trade-offs, acquisition strategy updates, and the development of exit criteria for the next phase or effort. The Milestone Decision Authority approves the program structure, including the type and number of decision points, as part of the acquisition strategy. Milestone C authorizes entry into LRIP (for MDAPs and major systems), into production or procurement (for non-major systems that do not require LRIP) or into limited deployment in support of operational testing for MAIS programs or software-intensive systems with no production components.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
Review and make inputs to applicable documents required by statute or regulation before milestone decision.	Milestone C Documentation DoDI 5000.02 Operation of the Defense Acquisition System Enc. 4 DoD PSM Guidebook Weapon System Acquisition Reform Act AFPD 63-1/20-1 Integrated Life Cycle Management Replaced System Sustainment Plan Summary	Engineering & Manufacturing Development

EXIT CRITERIA:

Milestone decision approved; full rate production decision
All proper supporting documentation put in the official files

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
4.65	Accomplish Spares Provisioning Conference	Spares Acquisition CLIN on Contract Nomenclature, Weapon System Designator Code (WSDC) Provisioning Technical Documentation (PTD) Has Been Screened PTD Has Been Loaded in D220 Approved Provisioning Performance Schedule (PPS)

DESCRIPTION:

The provisioning conference provides for the Government to make item selection and assign technical and management codes (previously referred to within the Air force as a source coding conference).
The following resources will normally be used:
    Sample articles when specified in the Initial Provisioning Performance Specification (IPPS).
    Provisioning technical documentation/SUPPLEMENTAL data for provisioning (PTD/SDFP).
    Maintenance engineering analysis (MEA), and/or RLA, when a requirement of the contract.
    Competent personnel with expert technical knowledge of the system/end article with regard to the design, reliability and maintenance characteristics of the system/end article or the portion being provisioned.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
The following activities are accomplished/addressed during a provisioning conference: 1. Hold a closed Air Force meeting (similar to the familiarization meeting held during the guidance conference) before the start of the provisioning conference as required. Meeting chairperson may invite other government agencies such as DLA or have a separate government only meeting. 2. Ensure the availability of adequate facilities, PTD, SDFP, qualified contractor personnel, and Repair Level Analysis (RLA) data, when applicable. 3. Assign Source Maintenance Recoverability (SMR) coding action and documentation. 4. Refer problems that cannot be adequately resolved to the 401 SCMS provisioning Policy Office with all pertinent facts for resolution with the appropriate staff. 5. Ensure that all personnel are aware of the principle of the price challenge policy HQ AFMC direction. Refer all unresolved questions to the 401 SCMS Provisioning Office for policy guidance. 6. Make sure official SMR codes are given to the contractor, through the Contracting Office, for publication in the IPB or the numerical index of the Illustrated Parts Breakdown (IPB) IAW MIL-M-38807 (USAF). Expendability Recoverability Reparability Category (ERRC) codes will not be included. 7. Assure resolution of or action taken on all problem areas. 8. Make sure requirement for the Repairable Items List (RIL), including dates needed are given to the contractor through the Contracting Office. 9. Prepare and distribute minutes. 10. When a Recoverable Item Breakdown (RIB) is sent to the Recoverable Item Inventory Manager (RIIM) ALC, the PTD is forwarded to the D155.	AFMCI 23-101 Air Force Provisioning Instruction, Chapter 14 TO 00-25-195 Source Maintenance Recoverability Code (SMR) AFMCMAN 23-3 Cataloging and Standardization ASME Y14.100 Engineering Drawing Practices Fee for service MIL-STD-31000C Technical Data Packages AFMCI 23-104 Functions and Responsibilities of the Equipment Specialist during Provisioning Product Data Acquisition Guidance	Engineering & Manufacturing Development Production & Deployment Operations & Support

EXIT CRITERIA:

Provisioning Office will update D220 based on changes during the Provisioning Conference.
D220 generates a Supply Support Request (SSR) for Consumables to Defense Logistics Agency (DLA).
D220 generates Required Provisioning Item Order (PIO) for Air Force Managed Items.
Provisioning Conference minutes

Generate Non-consumable item material support request (NIMSR)
406 SCMS will update Stock Control System (SCS) D035T Packaging, Transportation, and Regulated Material (PT&RM) Data System

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
5.6	Workload Realignment	Milestone C (completion of all acquisition activities) Initial Operating Capability (IOC) Full Rate Production (FRP) Site Activation Task Force (SATAF) Life Cycle Sustainment Plan (LCSP)

DESCRIPTION:

Workload transition is an orderly, timely and efficient transfer of workload for all ACAT level programs to the sustainment portfolio at the most appropriate point in the program. AFI 63-101/20-101, states, *"The program realignment process is a collaborative activity that is executed by the PM. PMs may initiate planning for program realignment at any point in the acquisition process, but must establish and document the initial target transition date in the AS no later than MS C or as determined by the MDA."* Planning for sustainment (activities, schedule, resources, milestones, etc.) should occur early in the program life cycle and be documented and updated in the Life Cycle Sustainment Plan (LCSP) or Acquisition Strategy. AFI 63-101/20-101, requires the System Program Manager (PM) to develop/maintain an LCSP that, *"…makes visible to senior leadership all aspects of the program plan"* including sustainment activities.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE

1. Ensure the tasks required by checklists 4.64 (Prepare Documentation for Milestone C), 5.14(Participate in Site Activation Task Force), and 5.42 (Prepare Documentation for Full Rate Production) have been addressed.
2. Ensure a logistician is included on any Integrated Product Teams (IPTs), Program Management Reviews (PMRs), or Portfolio Reviews to confirm the system's supportability worthiness for transfer. Focus should be on programs due to transfer in next five years
3. Workload transition begins when the PM (in collaboration with the Product Support Manager (PSM) recommend workload to transfer to another organization.
4. PEO and gaining Air Logistics Complex (ALC)/CC will review and recommend transfer to the Service Acquisition Executive (SAE) and Air Force Materiel Command (AFMC)/CC based on:
  • Review of established criteria: Reference AFPAM 63-128
  • Product Support Elements: Independent Logistics Analysis (ILA) Handbook tools may be used for evaluation of Product Support elements
5. Ensure Program Objective Memorandum (POM) input is coordinated with the ALC for supportability requirements (i.e. manpower) specifically to include subsequent support after transfer.
6. Ensure O&M POM input, including CAFDEx, is coordinated with the AFMC/A4F Workflow and the designated ALC
7. SAE and AFMC/CC evaluate and approve/decline transfer
8. Participate in IPT activities for the development and negotiation of realignment agreement. Delivering Center will be IPT lead.
	AFI 63-101/20-101 Integrated Life Cycle Management
	
	DoDI 5000.02 Operation of the Defense Acquisition System
	
	DoD PSM Guidebook
	
	Weapon System Acquisition Reform Act
	
	DoD LA Guidebook
	
	AFPAM 63-128 Integrated Life Cycle Management
	
	Centralized Asset Management SharePoint Site
	
	Centralized Access For Data Exchange (CAFDEx)
	
	CAFDEx Access Instructions
	
	Logistics Requirements Determination Process
	
	Product Data Acquisition Guidance
	
	Sample Documents:
	LCSP Sample
		Engineering & Manufacturing Development
		
		Production & Deployment

9. Participate in IPT activities associated with the preparation of the workload realignment		
EXIT CRITERIA:		
Life Cycle Sustainment Plan (LCSP) Workload realignment plan		

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
5.8.1	Utilize Centralized Asset Management (CAM) / Centralized Access for Data Exchange (CAFDEx)	Program Objective Memorandum (POM) Program Office Estimate (POE) Life Cycle Sustainment Plan (LCSP)

CAM provides AF enterprise level optimization to maximize warfighting capability through performance based outcomes and centralized programming, budgeting and execution for AF weapon system sustainment. It standardizes/streamlines sustainment requirements focused on fleet-based management. CAM's purpose is to optimize the shrinking 3400 sustainment budgets to target top AF priorities. CAM encompasses Depot Purchased Equipment Maintenance (DPEM) which includes Aircraft & Missiles, Engines, Other Major End Items (OMEI), Non – MSD exchangeable, Area / Base Support / Local Manufacture (ABM), Software, Support Equipment repair, and Storage. CAM also includes Contractor Logistics Support (CLS), Technical Order maintenance, Sustaining Engineering, and Aviation Petroleum Oil and Lubricants (AvPOL). CAM does not include second destination transportation funding.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Contact HQ AFMC/A4F Workflow to notify CAM Office of your program. HQ AFMC/A4F will assign a CAM analyst.	Logistics Requirements Determination Process (LRDP)	Production & Deployment
2. Obtain CAFDEx account. Register using link in Source Documentation column. Attend any available CAM / CAFDEx training.	Centralized Access For Data Exchange (CAFDEx) CAFDEx Access Instructions	Operations & Support
3. Work with Program Financial Manager to determine CAM portion of the: a. Program Office Estimate b. POM inputs c. Specifically, 3400 funding requirements	AFI 63-101/20-101 Integrated Lifecycle Management AFMAN 63-143 Centralize Asset Management (CAM) Procedures	
4. Coordinate with the designated ALC on budgeting inputs and program schedule.		
5. Ensure requirements are input into CAFDEx within the FYDP to include: a. DPEM b. CLS c. Sustaining Engineering d. Technical Order		
6. Ensure quantities and amounts are input into Funded Requirements Module (FRM) of CAFDEx to include: a. Obligations b. Distribution c. Inductions d. Completions e. deferrals		
7. Ensure Weapon System Annex (WSA) is developed within WSA/PBO module of CAFDEx		

a. Contact HQ AFMC/A4F for CAM WSA annex template and instructions. WSA guidance on CAM CoP folder 5. b. Contact Lead command for the approved standards for your weapon system. e.g., A4 & A8. c. Ensure current program information is used to develop projections for template input. Projections are PM/PGM best estimates of capability achievable under current constraints. (against your program standards). d. Obtain written coordination between the PM/PGM and Lead Command IAW template guidance annually. Specified schedule for update can be found on the CAM CoP and dialogue with CAM analyst. e. Work with CAM Program Office to monitor actual performance against projections and standards quarterly. f. Evaluate the relationship between the standards/projections against any contracts such as CLS. g. Ensure you review the enterprise CAM WSA business rules annually and provide input through the official comments matrix when guidance is coordinated. 8. Repeat steps 3 through 7 annually. 9. Recognize that full funding may not be available and ensure you have a flexible contract vehicle. Notify HQ AFMC/A4F Workflow and your CAM Analyst of any major program changes. e.g., major change in quantities or schedule adjustments		
EXIT CRITERIA:		
Program Office Estimate POM Inputs CAFDEx inputs Updates to LCSP		

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
5.14	Participate in Site Activation Task Force (SATAF)	CE / Site / Project Office MOAs System Implementation Plan (SIP) Site Validated Requirements Facilities Requirement Plan Bed down Plan Site Floor Plans System Engineering Plan (SEP) System Security Plan

DESCRIPTION:
This procedure identifies the steps necessary to support migration or installation of a new system at the designated sites in accordance with the validated requirements, approved drawings and floor plans, and associated documentation (Plans/Policies). It is assumed that the infrastructure requirements performed by civil engineering (or contractor) have been satisfied. Activities may include installation, testing, and coordination with other infrastructure service agencies such as Defense Information Systems Agency.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Ensure logistician is part of the team. 2. Participate in operational base survey. 3. Validate logistics requirements to develop the site design. 4. Coordinate with site and base logistician on required assets (support equipment, technical orders, spares/training, etc.). 5. Ensure all allied support (base level) is completed (such as infrastructure, communications, electrical power, and physical security requirements) in accordance with the associated Memorandums of Agreement (MOA)s 6. Work logistics action items with mitigation plan. 7. Plan and coordinate training, technical orders, support equipment, supply support activities, Facilities, maintenance planning, manpower and personnel, supportability, transportation, systems engineering, and Intelligence. 8. Special consideration for Environment, Safety, and Occupational Health (ESOH) at the base including hazardous material and waste management must be addressed. 9. Ensure National Environmental Policy Act (NEPA and Air Force Strategic Energy and Infrastructure Plan milestones have been met and Air Installation Compatible Use Zones (AICUZ) are updated as required. 10. Ensure consideration of any unique habitability issues to facilitate / ensure the safety, survivability, and effectiveness of all personnel. 11. Participate in SATAF out brief	AFI 10-503 Base Unit Bed down Program AFI 10-501 Program Action Directives (PAD) and Programming Plans (PPlan) AFI 16-403 Updating the USAF Program Installations, Units, and Priorities and Movement of Air Force Units AFI 32-9005 Real Property Accountability and Reporting DoD LA Guidebook CJCSI 3312.01A Joint Military Intelligence Requirements Certification AFI 14-111 Intelligence Support to the Acquisition Life Cycle DoDI 5000.02 Operation of the Defense Acquisition System Enclosure 12, Para 6 DoD PSM Guidebook Weapon System Acquisition Reform Act 42 USC 4321 40 CFR 1500 32 CFR 989.3(c)(3) AFI 32-7086, Hazardous Material Management AFI 32-7063, Air Installation Compatible Use Zones AFI 32-7042, Waste Management Air Force Strategic Energy and Infrastructure Plan HSI Requirements Pocket Guide	Engineering & Manufacturing Development Production & Deployment

	AFI 32-1021 Planning and Programming Military Construction (MILCON) Projects
	AFI 32-1023 Designing and Constructing Military Construction (MILCON) Projects
	AFI 32-7061 The Environmental Impact Analysis Process
	Sample Documents:
	LCSP Sample
	PMA/SMA Sample
	SEP Summary
EXIT CRITERIA:	

EXIT CRITERIA:

Update SIP and SEP / LCSP / PMA/SMA
SATAF out brief
Completed National Environmental Policy Act (NEPA) Documentation

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
5.27	Participate in Operational Test Readiness Review (OTRR)	Test Plan Test and Evaluation Master Plan (TEMP) Initial Capabilities Document (ICD) Capability Development Document (CDD) System Engineering Plan (SEP) Support and Maintenance Concept and Technologies Threat assessment baseline from Intelligence

DESCRIPTION:

A review of the test plan, including safety and facilities/infrastructure, to determine readiness to begin testing.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Identify any Product Support (PS) KPP/KSAs within the test plan and ensure they are fully tested, analyzed, and assessed to meet acceptance criteria. 2. Review operational safety, suitability and effectiveness of the PS strategy and CONOPs assessments, as possible. 3. Review PS readiness assessments, as possible. 4. Review system logistics footprint assessments, as possible. 5. Review PS facility and infrastructure requirements assessments, as possible. 6. Review maintenance procedures assessments, as possible, to include technical manual development and data availability. 7. Review support equipment suitability (to include calibration requirements) and compatibility with system maintenance concept assessments, as possible. 8. Review on-equipment vs. off-equipment maintenance tasks assessments, as possible. 9. Review system size and weight, permitting economical handling, loading, securing, transporting, and disassembling for shipment, to include handling hazardous materials assessments, as possible. 10. Ensure test plan includes adequate funding for PS testing requirements, to include fee for service support and contracted logistics/maintenance support. Scope and plan the necessary resources to support the test program. (including test participants) 11. Ensure test plan includes adequate testing for all HSI relevant requirements. 12. Assess the risk of items or issues not fully addressed in the test plan and address the impact of DT issues that have not yet been resolved. 13. Assess status of Training Systems to ensure supportability requirements have been met 14. Ensure Intelligence interests are addressed. Reference Appendix A, Checklist 1.1	Defense Acquisition Guidebook Chapter 9 AFPD 99-1 Test and Evaluation Process DoD Guide for Achieving Reliability, Availability, and Maintainability AFI 99-103 Capabilities Based Test and Evaluation DoD LA Guidebook CJCSI 3312.01A Joint Military Intelligence Requirements Certification AFI 14-111 Intelligence Support to the Acquisition Life Cycle DoDI 5000.02 Operation of the Defense Acquisition System Enclosure 12, Para 6 DoD PSM Guidebook Weapon System Acquisition Reform Act HSI Acquisition Phase Guide **Sample Documents:** SEP Summary ICD Summary TEMP Sample	Engineering & Manufacturing Development Production & Deployment Operations & Support

EXIT CRITERIA:

Approved Readiness to Conduct Test
Updated/Approved Test Plan

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
5.31	Participate in Physical Configuration Audit (PCA)	Acceptable performance in development, test and evaluation and operational assessment; mature software capability No significant manufacturing risks Manufacturing processes under control Approved ICD (if Milestone C is program initiation) Approved Capability Production Document (CPD) Acceptable interoperability; acceptable operational supportability Compliance with the DoD Strategic Plan; and demonstration that the system is affordable throughout the life cycle, optimally funded, and properly phased for rapid acquisition. CPD reflects the operational requirements resulting from EMD and details the performance expected of the production system.

DESCRIPTION:

A formal audit that establishes the product baseline as reflected in an early production configuration item. The PCA is conducted around the time of the full rate production decision and examines the actual configuration of an item being produced. It verifies that the related design documentation matches the item as specified in the contract. In addition to the standard practice of assuring product verification, the PCA confirms that the manufacturing processes, quality control system, measurement and test equipment, and training are adequately planned, tracked, and controlled. The PCA validates many of the supporting processes used by the contractor in the production of the item and verifies other elements of the item that may have been impacted / redesigned after completion of the System Verification Review (SVR). A PCA is normally conducted when the government plans to control the detail design of the item it is acquiring via the Technical Data Package. When the government does not plan to exercise such control or purchase the item's Technical Data Package (e.g.,, performance based procurement) the contractor should conduct an internal PCA to define the starting point for controlling the detail design of the item and establishing a product baseline. The PCA is complete when the design and manufacturing documentation match the item as specified in the contract. If the PCA was not conducted prior to the full rate production decision, it should be performed as soon as production systems are available.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Review technical data (specifically drawings, models, and associated lists) for accuracy, completeness, and compliance with contract requirements. 2. Ensure product definition data is the latest release which matches the configuration of the product 3. Ensure build data is the latest release which matches the configuration of the product with appropriate quality assurance stamp 4. Ensure associated lists (e.g., notes lists, application lists, parts list, bill of materials) are accurate, complete, and consistent with product definition data 5. Ensure nomenclature descriptions, part numbers and serial numbers on the drawings are listed on the build paper 6. Ensure special instructions and processes on the drawings are listed on the build paper to include dimensions, tolerances, finishes, etc. 7. Ensure Environment, Safety, and Occupational Health (ESOH) safeguards are included. 8. Verify the human related attributes are accurately included in the configuration 9. Ensure that the markings on the data match the rights in the contract.	Defense Acquisition Guidebook ASC/EN Guide: Technical Reviews/Audits for Aeronautical Weapon System Acquisition ASC Configuration Management Processes Guide MIL-HDBK-61A Configuration Management Guidance DoD LA Guidebook HSI Acquisition Phase Guide **Sample Documents:**	Production & Deployment

10. Ensure nomenclature consistency between the models, drawings, and hardware 11. Review the Program Parts Selection List (PPSL) and ensure the list match the hardware and technical data 12. Define which parts will be provisioned. If so, ensure the test data that is essential to manufacturing is included on, or furnished with the technical data. 13. Review documentation to ensure the configuration before and after qualification testing is available to include any changes made since qualification testing (e.g.,, engineering change orders). 14. Review documentation to ensure changes made since the last audit or drawing review (e.g.,, engineering change orders) are maintained.	SEP Summary ICD Summary TEMP Sample MER Sample LCSP Sample	

EXIT CRITERIA:
Established production baseline Updated CPD, TEMP, PESHE, LCSP, and SEP as required Inputs to Cost/Manpower estimate FCA/PCA Certificate of Completion

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
5.32	Update Product Support Strategy in LCSP	Existing Life Cycle Sustainment Plan Post-CDR Assessment Operational Test Plan Capability Production Document

DESCRIPTION:

A Life Cycle Sustainment Plan (LCSP) is a comprehensive document that consolidates the weapon system life cycle acquisition management and product support strategies from materiel solution analysis through reclamation/disposal. It is a document that must be maintained to remain compliant with revised/new DoD policy and statutory requirements. It represents a corporate AF position on how to best execute and manage a specific program and requires participation from all program stakeholders in its development and update.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Ensure points in checklist 2.49 are updated 2. Discuss demonstration of system affordability throughout the life cycle, optimal funding, and proper phasing for rapid acquisition 3. Review Cost as an Independent Variable (CAIV). Include any funding shortfalls and discuss current and planned cost reduction initiatives 4. Update discussion of Human Systems Integration (HSI) implications, constraints, and issues 5. Identify potential PBL product support integrators and providers 6. Refine life cycle logistics documents and analyses as a result of development and operational tests, and iterative systems engineering analyses 7. Review SEP to identify processes for development and updates for the Failure Modes, Effects and Criticality Analysis (FMECA) matrix, Failure Reporting, Analysis and Corrective Action System (FRACAS), and Trend Analysis for maturation purposes of the weapon system and its support system See 4.15 SLIM checklist 8. Discuss secure and integrated information systems across industry and government that enable comprehensive product support reporting 9. Review the Capability Production Document (CPD) for System Maintenance/Support Profiles and Use Case Scenarios (Support Capability Packages); Reliability and Maintenance Rates; Support Environmental and Locations for Support; Support and Maintenance Effectiveness; Duration of Support. Ensure consideration of the proposed target audience (user). This includes the cognitive, physical and sensory abilities i.e., capabilities and limitations of the operators, maintainers, and support personnel that are expected to be in place at the time the system is fielded.	AFPAM 63-128 Integrated Life Cycle Management Defense Acquisition Guidebook Integrated Defense Acquisition Technology and Logistics Life Cycle Mgmt Framework ("Wall Chart") AFI 63-101/20-101, Integrated Life Cycle Management Combined DT&E/OT&E/LFT&E Configuration Mgmt Configuration Mgmt 2 Cost as an Independent Variable (CAIV) DoDD 5000.01 The Defense Acquisition System E1.1.17 - Performance-Based Logistics Defense Acquisition Guidebook DoD 4140.1-M DoD Supply Chain Material Management Supply Chain Management Interoperability Life Cycle Costs PBL: A PM's Product Support Guide Product Support AFI 99-103 Capabilities Based Test and Evaluation Air Force Strategic Energy and Infrastructure Plan DoD LA Guidebook Centralized Asset Management (CAM) Document Library in the United States Air Force Enterprise Information Service	Engineering & Manufacturing Development

10. Ensure sufficient coverage of product support elements. Include Diminishing Manufacturing Sources and Material Shortages, Energy Efficiency, Alternate Fuels considerations, demilitarization, declassification and disposal. 11. Review the MDA for exit criteria 12. Assess status of Training Systems to ensure supportability requirements have been met 13. Ensure National Environmental Policy Act (NEPA), facilities/infrastructure; SRM and MILCON funding requirements are addressed lead time away as applicable. 14. Review Air Force strategic energy and infrastructure plan. 15. Ensure the HSI process is used to support generation of a robust plan that considers all human-related domains in an integrated manner. It must be addressed throughout the life cycle, and must be consistently integrated into SE implementation to balance total system performance (hardware, software, and human), and affordability. 16. Ensure planning for Centralized Asset Management (CAM) / Centralized Access for Data Exchange (CAFDEx) inputs are accomplished. See Task 5.25 17. This task is one in a series to ensure the LCSP is continually updated to address additional program information and maturity. Reference checklists 2.15, 2.49, 3.29, 5.32, and 6.10. Note: Review the Enterprise Logistics Flight Plan (ELFP) for compliance with architecture – creation of Operational / System / Technical View document may be required.	Centralized Access For Data Exchange (CAFDEx) CAFDEx Access Instructions Logistics Requirements Determination Process DoD Reliability, Availability, Maintainability and Cost Rationale Report (RAM-C) Manual 42 USC 4321 40 CFR 1500 32 CFR 989.3(c)(3) DoDI 5000.02 Operation of the Defense Acquisition System Enclosure 12, Para 6 DoD PSM Guidebook DoD Product Support BCA Guidebook Weapon System Acquisition Reform Act Preservation and Storage of Tooling for MDAPs ELFPHSI Handbook HSI Requirements Pocket Guide Product Data Acquisition Guidance Next Generation CLS Contract Sustainment Support Guide (CSSG) DoD PBL Guidebook https://acc.dau.mil/pbl-guidebook **Sample Documents:** LCSP Sample	
EXIT CRITERIA:		
Elements of Product Support Updated Life Cycle Sustainment Plan Programmatic Environment, Safety, and Occupational Health Evaluation (PESHE)		

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TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
5.42	Prepare Documentation for Full Rate Production (FRP) Decision	Determination that FRP Decision is required

DESCRIPTION:

The logistician should review and make input to the following documents required by statute or regulation before Milestone Decision can be sought and rendered

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Post-Deployment Performance Review 2. CCA Compliance (All IT-including NSS)(Table E4.T1) 3. Programmatic Environment, Safety, and Occupational Health Evaluations (PESHE) (including National Environmental Policy Act (NEPA) compliance schedule) 4. Selected Acquisition Report (MDAPs only)(MS B and annually thereafter) 5. Independent Cost Estimate (CAIG) and Manpower Estimate (reviewed by OUSD(P&R))(N/A for AISs, MDAPs only) 6. LFT&E Report 7. Acquisition Program Baseline 8. Acquisition Strategy 9. Analysis of Alternatives (for MAIS, MS B or equivalent) 10. Interoperability Certification 11. Economic Analysis (MAIS only)(MS B or equivalent) 12. Component Cost Analysis (mandatory of MAIS anytime an economic analysis is required, either by statute or by the MDA, as requested by CAE for MDAP) 13. Cost Analysis Requirements Description (MDAPs and MAIS acquisition programs only) (for MAIS, anytime an economic analysis is required either by statute or by the MDA) (CARDs shall be prepared according to the procedures specified in DoD Instruction 5000.02). Ensure energy costs are considered. 14. Test and Evaluation Master Plan 15. Operational Test Agency Report of Operational Test and Evaluation Results 16. Acquisition Decision Memorandum	5 USC 306 15 U.S.C. 644(e)(2) 40 U.S.C. Subtitle III Sec. 8088, Pub.L. 107-248 (or successor appropriations act provision) 42 U.S.C. 4321 10 U.S.C. 2432 10 U.S.C. 2434 10 U.S.C. 2366 10 U.S.C. 2399 10 U.S.C. 2435 DoDD 5000.01 The Defense Acquisition System DoDI 5000.02 Operation of the Defense Acquisition System DoD PSM Guidebook Weapon System Acquisition Reform Act 32 CFR 989.3(c)(3) Defense Acquisition Guidebook Replaced System Sustainment Plan Summary	IOC – FRP Decision

EXIT CRITERIA:

Milestone decision approved
All proper supporting documentation put in the official files

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
5.42.1	Participate in Foreign Military Sales (FMS) Activities	Foreign Government Letter of Request (LOR) Tasking from Undersecretary of Defense for International Affairs (SAF/IA) or the Air Force Security Assistance and Cooperation Directorate (AFSAC)

DESCRIPTION:

The Foreign Military Sales (FMS) Program is that part of Security Assistance authorized by the Arms Export Control Act and conducted using formal contracts or agreements between the Government and an authorized foreign country. These contracts, called Letters of Offer and Acceptance (LOAs), provide for the sale of defense articles and/or defense services (to include training) usually from DoD.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Respond to request for assistance in development of Foreign Military Sales requirement. The program office will receive a request from the SAF/IA Desk Officer or the AFSAC Command Country Manager (CCM) to provide assistance to a foreign government wishing to procure capabilities through the FMS process. Per DSCA 5105.38-M, Table C5.T2., all requests must come through SAF/IA and/or AFSAC.	DSCA 5105.38-M Security Assistance Management Manual C5.T6., Row #1	Production & Deployment
a. The Program Manager must determine if resources are available to support the requested effort.	AFMAN 16-101 International Affairs and Security Assistance Management Chapter 3	Operations & Support
b. If additional resources are needed, communicate with SAF/IA or AFSAC.	DSCA 5105.38-M Security Assistance Management Manual C5.T6., Row #2	
c. If total resources needed for a Pre-LOA effort exceeds ½ man-year, or $25,000, inform SAF/IA and AFSAC CCM for potential development of LOA Support Case funded by the foreign government, or waiver.	HSI Handbook App 4	
d. Funding for Pre-LOA travel must be coordinated through the center International Programs Office (IPO).	AFMAN 16-101 International Affairs and Security Assistance Management Chapter 3	
e. Identify HSI concerns related to target user population and country differences. See 2.13.1 HSI Checklist	DSCA 5105.38-M C5.T6., Row #3	
2. Perform Site Survey or other case planning to definitize foreign government requirements. If the foreign government is new to Foreign Military Sales or is wanting to acquire a system new to their inventory a Site Survey may be necessary to develop a program baseline. This effort is funded by the foreign government via a Letter of Offer and Acceptance (LOA), either written to specifically fund manpower (USG and contractor) and travel, or via recoupment through a system sale LOA. General case planning of lesser extent may be funded by FMS Administrative Funds.	AFMAN 16-101 International Affairs and Security Assistance Management	
a. Form Site Survey or informal team that are capable of addressing the area in b below in addition to persons that can identify essential	**Sample Documents:** Site Survey Sample LOA Sample	

components of the weapon system to be offered

   b. Perform a survey that will evaluate the following areas:

     i. Facilities footprint required to operate and maintain the weapon system (existing and new)

     ii. Logistics Support requirements to include CLS if necessary

     iii. Training

     iv. Information security requirements

     v. Technical assessments, as necessary

     vi. The capability of the base infrastructure to sustain the increased base population associated with the weapon system operations

   c. Prepare a report and/or brief the potential FMS purchaser whether Site Survey or informal review.

   d. If a formal Site Survey, prepare quarterly summary report for Congress, as directed by SAF/IA.

3. Prepare Price and Availability (P&A) data. P&A data are Rough Order of Magnitude (ROM). If the development of the response requires preparation of reports or other documentation, or travel to meetings, it does not qualify as ROM/P&A.

   a. Receive validated P&A request from SAF/IA or AFSAC

   b. Using available information, including standard Air Force factors and formulas, formulate P&A.

   c. Include standard disclaimer on P&A response stating the data provided is to be used for planning purposes only.

4. Prepare LOA Data (LOAD). The Letter of Offer and Acceptance is a formal, binding document between the USG and the foreign government utilizing the Foreign Military Sales (FMS) system. The LOR is validated by the Command Country Manager at AFSAC who then passes the LOR to the Case Manager who requests formal, detailed information from the Program Office. This LOA Data (or LOAD) generally includes pricing for items being acquired and USG personnel to implement the program, schedules, Sole Source arrangements, services being acquired through contracts, Technical Data, training, testing, source of supply, etc. The request for LOAD is accomplished through the Defense Security Assistance Management System (DSAMS).

a. Receive DSAMS tasking from Center IPO to prepare LOAD		
b. Review LOR to ensure information is sufficient to develop valid and accurate LOAD estimates.		
c. If information in the LOR is not sufficient, request additional information via the Case Manager		
d. Develop LOAD to include line item descriptions and notes, estimated delivery schedules, program milestones, payment schedules, and manpower and associated cost required to execute the case and all other required information.		
e. Complete LOAD tasking within 30 calendar days of the tasking date via DSAMS.		
f. If LOAD development cannot be completed by the due date the preparing office must request an extension from the Case Manager, providing justification.		
g. Review LOAD through Internal Program Office and IPO process		
h. Complete LOAD tasking via DSAMS to Center IPO		
5. Prepare FMS Manpower Data. During the development of an LOA the Program Manager, in conjunction with the Case Manager, may determine that the execution of the case requires dedicated manpower and personnel resources. Manpower and personnel resources are managed by a cooperative process involving SAF/IAPX and the MAJCOM Manpower and Organization Office. FMS manpower and personnel requirements must be categorized based on the duties performed. All case funded manpower requirements must be documented by the development of a Manpower Requirements Package (MRP) or Manpower Change Notice (MCN). A Manpower and Travel Data Sheet (MTDS) is mandated by the Defense Security Cooperation Agency (DSCA) and must accompany all LOAs requiring case funded manpower or case funded travel.		

EXIT CRITERIA:

Available resources are in place or are provided via AFSAC or SAF/IA
Site Survey Report
Price and Availability Data
LOAD
FMS Manpower Data
Letter of Offer and Assistance

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
6.10	Update Product Support Strategy for Sustainment in Life Cycle Sustainment Plan (LCSP)	Existing LCSP Capability Production Document (CPD) Transition Support Plan (TSP) Sustainment Decision

DESCRIPTION:

A Life Cycle Sustainment Plan (LCSP) is a comprehensive document that consolidates the weapon system life cycle acquisition management and product support strategies from materiel solution analysis through reclamation/disposal. It is a document that must be maintained to remain compliant with revised/new DoD policy and statutory requirements. It represents a corporate AF position on how to best execute and manage a specific program and requires participation from all program stakeholders in its development and update.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE

1. Ensure points in checklist 5.32 are updated
2. Discuss demonstration of system affordability throughout the life cycle, optimal funding, and proper phasing for rapid acquisition
3. Refine life cycle logistics documents and analyses as a result of development and operational tests, and iterative systems engineering analyses
4. Review SEP to identify processes for development and updates for the Failure Modes, Effects and Criticality Analysis (FMECA) matrix, Failure Reporting, Analysis and Corrective Action System (FRACAS), and Trend Analysis for maturation purposes of the weapon system and its support system
5. Discuss secure and integrated information systems across industry and government that enable comprehensive product support reporting
6. Review the Capability Production Document (CPD) for:
   a. System Maintenance/Support Profiles and Use Case Scenarios (Support Capability Packages)
   b. Reliability and Maintenance Rates
   c. Reflection of any changes to the support environment
   d. Support and Maintenance Effectiveness
   e. Duration of Support
   f. Human Systems Integration implications, issues and constraints
7. Ensure sufficient coverage of product support elements. Include Diminishing Manufacturing Sources and Material Shortages, Energy Efficiency, Environment, Safety, and Occupational Health (ESOH), Noise (ambient and occupational), Alternate Fuels considerations, demilitarization, declassification and disposal. Specifically consider facilities
	AFPAM 63-128 Integrated Life Cycle Management
	
	Defense Acquisition Guidebook
	
	Integrated Defense Acquisition Technology and Logistics Life Cycle Mgmt Framework ("Wall Chart")
	
	AFI 63-101/20-101, Integrated Life Cycle Management
	
	Combined DT&E/OT&E/LFT&E
	
	Configuration Mgmt
	
	Configuration Mgmt 2
	
	Condition Based Maintenance Plus (CBM+)
	
	Interoperability
	
	Life Cycle Costs
	
	Product Support
	
	AFI 99-103 Capabilities Based Test and Evaluation
	
	DoD LA Guidebook
	
	Centralized Asset Management (CAM) Document Library in the United States Air Force Enterprise Information Service
	
	Centralized Access For Data Exchange (CAFDEx)
	
	CAFDEx Access Instructions
		Operations & Support

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requirements for classified materials and unique storage issues. 8. Ensure the HSI process is used to support generation of a robust plan that considers all human-related domains in an integrated manner. It must be addressed throughout the life cycle, and must be consistently integrated into SE implementation to balance total system performance (hardware, software, and human), and affordability. 9. Develop and coordinate Program Management / Services Management Agreement between System Sustainment Management and users. 10. Ensure approval of transition support plan and seamless process between acquisition and sustainment portfolios. 11. Ensure systems can be supported throughout its life cycle (DMSMS, Life Cycle Sustainment Plan, and Migration/Disposal Planning). 12. Implement Condition Based Maintenance + (CBM+) Reference 6.41.2 SLIM Checklist a. Use to improve maintenance agility and responsiveness, increase operational availability, and reduce life cycle total ownership costs. 13. Ensure RAM is not compromised by use of chemicals of emerging regulatory interest. 14. Ensure planning for Centralized Asset Management (CAM) / Centralized Access For Data Exchange (CAFDEx) inputs are accomplished. See Task 5.25 Prior to program transfer all inputs should be coordinated with the Program Office and designated ALC. 15. This task is one in a series to ensure the LCSP is continually updated to address additional program information and maturity. Reference checklists 2.15, 2.49, 3.29, 5.32, and 6.10. Note: Review the Enterprise Logistics Flight Plan (ELFP) for compliance with architecture – creation of Operational / System / Technical View document may be required.	Logistics Requirements Determination Process DoDI 5000.02 Operation of the Defense Acquisition System Enclosure 12, Para 6 DoD PSM Guidebook DoD Product Support BCA Guidebook Weapon System Acquisition Reform Act AFI 32 7086, Hazardous Material Management AFI 32-7063, Air Installation Compatible Use Zones Preservation and Storage of Tooling for MDAPs DoD Reliability, Availability, Maintainability and Cost Rationale Report (RAM-C) Manual ELFPHSI Handbook HSI Requirements Pocket Guide DoD Guide for Achieving Reliability, Availability, and Maintainability Next Generation CLS Contract Sustainment Support Guide (CSSG) **Sample Documents:** LCSP Sample	

EXIT CRITERIA:	
Updated Life Cycle Sustainment Plan to include all Elements of Product Support (Life Cycle Sustainment Plan) Updated Product Support Strategy Migration Plan	

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
6.11	Sustainment Systems Engineering	Capability Production Document (CPD) Production contract Technical data Program Management / Services Management Agreement (PMA/SMA) Systems Engineering Plan (SEP) Final Product Baseline and product specifications Life Cycle Sustainment Plan (LCSP) Transfer Plan Initial Operational Capability (IOC) and/or Full Operational Capability (FOC) Milestone C approval

DESCRIPTION:

Sustainment Systems Engineering is the process which provides technical and engineering support during the life of the sustainment phase. This process includes the entire set of scientific, technical and engineering managerial efforts needed to deploy, support and dispose of a weapon system. Sustainment Systems Engineering contributes to the overall sustainment management function, of maintaining the required weapon system availability, capability and OSS&E to support the warfighter mission.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE

1. Review the SEP annually and update as required.
2. Execute sustainment engineering in accordance with the SEP.
3. Develop prioritized list of tasks/requirements coordinated with the MAJCOM/users. These tasks and requirements will support either weapon system availability and/or new capability. The final prioritized list must be entered into CAFDEx.
4. Basic Sustainment Engineering processes to support weapon system availability. See task 6.41.2 SLIM.
  – Monitor and collect all reliability, availability, maintainability (RAM), cost, supportability, equipment status reporting, and maintenance data, user Feedback, Failure Reports, Discrepancy Reports, Deficiency Reports, Crash reports, and Safety bulletins.
  – Analyze data to determine root causes
  – Determine system Hazard/Risk Severity and Probability
  – Identify HSI relevant issues and constraints that can be used to provide input into modifications to the system
  – Provide inputs to appropriate lessons learned repositories
  – Develop Corrective Action
  – Integrate and Test Corrective Action
  – Assess Risk of improved System
  – In-Service Review – implement and field
  – Ensure analysis and corrective actions are properly documented.
  – Inputs to CDD
	DoDI 5000.02 Operation of the Defense Acquisition System
	
	DoD PSM Guidebook
	
	Weapon System Acquisition Reform Act
	
	DoD Guide for Achieving Reliability, Availability, and Maintainability
	
	Defense Acquisition Guidebook
	
	AFMCI 63-1201 Implementing Operational Safety, Suitability and Effectiveness (OSS&E) and Life Cycle Systems Engineering
	
	AFI 99-103 (T&E)
	
	AFI 63-131 Modification Management
	
	AFI 63-101/20-101 Integrated Life Cycle Management
	
	DoDI 8500.01 Information Assurance (IA)
	
	Systems Engineering Plan (SEP) Outline
		Production and Deployment
		
		Operations and Support

- Modifications / upgrades to fielded systems – Maintain Product Baseline documentation to reflect all approved changes.	Systems Engineering Fundamentals Guide
- Maintain Systems Engineering Plan	MIL-STD-882E (System Safety)
- Provide technical / engineering support for hardware and software depot maintenance activities	MIL-STD-882E (Safety)
- Provide technical / engineering support for supply chain management activities	DoD LA Guidebook
- Support the PM in managing all Sustainment / support contracts / tasks.	Centralized Access For Data Exchange (CAFDEx)

5. Other supporting process supported and managed by Sustainment Engineering function to support system availability requirements: configuration management and control, OSS&E, DMSMS, technical refresh, F3I analysis and approval, information insurance (IA) re-certification, system security management and Program Protection Planning (PPP), technology protection, corrosion control plan execution, and on-site engineering support.

6. Basic Sustainment Engineering processes to support weapon system new capabilities (Note, if the new capability requirements results in initiation of an ACAT program and development of an ICD then refer to EMD phase): These include:
   - AF Form 1067 requirements analysis and initial engineering evaluation.
   - Identify, analyze and select material solution option. This will include cost estimates and trade studies.
   - Once a material solution is selected/approved and funded, the engineer will develop technical contract inputs. This includes a Performance Work Statement, Technical Requirements Document (TRD), draft system specification, and technical CDRL.
   - Perform technical evaluation to include Basis of Estimate Evaluations on all contract/task proposals
   - Manage, oversee, verify and test the system development baselines, to include the required support elements. Review and approve the performance baseline (SRR), allocated baseline (PDR), and product baseline (CDR). Verify and test the product to include the support elements.
   - Support the PM in managing all modification / upgrade contracts/tasks.

Right column continued:

CAFDEx Access Instructions

Logistics Requirements Determination Process See Section 2.9

DoD Reliability, Availability, Maintainability and Cost Rationale Report (RAM-C) Manual

HSI Acquisition Phase Guide

HSI Handbook

Joint Lessons Learned Information System (JLLIS)

Product Data Acquisition Guidance
Sample Documents:
LCSP Sample
SEP Summary
PMA/SMA Sample

EXIT CRITERIA:
Updated: CPD Contracts Technical data PMA/SMAs SEP Updated Product Baseline and product specifications LCSP

Engineering studies analysis and reports
Performance Based Agreements (PBA)s
Aircraft Availability reports

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
6.12	Execute Material Support for Sustainment Management - Defense Logistics Agency (DLA) Interface	Program Management / Services Management Agreements (PMA/SMA) Weapon System Coding in support of the WSSP Life Cycle Sustainment Plan (LCSP) Supply Support Strategy Support Equipment Recommendation Data (SERD) Provisioning Technical Documentation Supply Support Requests (SSR) Technical Data Packages Packaging, Handling, Storage, Transportation (PHS&T) Requirements Diminishing Manufacturing Sources and Material Shortages (DMSMS) Items Disposal/Reutilization of Items

DESCRIPTION:
This checklist describes how, when, and where in the Acquisition and Sustainment Phases to interface with DLA. DLA is DoD's largest combat support agency providing worldwide logistics support to the military services as well as several civilian agencies and foreign countries. The DLA centers are organized by Defense Supply Chains: DSC Richmond -Aviation, DSC Columbus – Land and Maritime, DSC Philadelphia - Medical, Clothing and Textile, Subsistence, Construction Equipment and Defense Energy Supply Center (DESC) - Fuel/Energy. DLA provides consumable items management, Procurement of Depot Level Repairable (DLRs), Cataloging, Packaging, Handling, Storage, Transportation (PHS&T), Asset Marking to include Item Unique Identification (IUID), and Disposal of materials for the Air Force and other services.

CHECKLIST SUBTASKS:		
TASK	SOURCE DOCUMENTATION	PHASE
1. Coordinate with DLA Distribution Depot Center (DDC) for PHS&T and Asset Marking to include IUID Requirements (Reference Task 2.37) 2. Coordinate with DLA Defense Logistics Information Service (DLIS) for Support Equipment (SE) Recommendation Data (SERD) Process (Reference Task 3.37.6) 3. Coordinate with DLA DSCR for DMSMS program plan (Reference Task 3.37.13) 4. Coordinate with DLA Supply Center Richmond – Aviation (DSCR) on the Supply Support Strategy (Reference Task 3.37.14) 5. Contact DLA DSCR for support when standing up the Program Office (Reference Task 3.02) 6. Coordinate DLA DLIS and DLA DDC for Support Equipment (SE) Guidance Conference (Reference Task 3.47.1) 7. Coordinate with DLA DLIS for the Spares Provisioning Guidance Conference (Reference Task 3.47.4) 8. Coordinate with AF WSSP Monitor to ensure DLA WSDC is identified. (Reference Task 4.11) 9. Coordinate with DLA DLIS for Provisioning Conference (Reference Task 5.5.4) 10. Coordinate with DLA DSCR for Supply Requirements (Reference Task 6.45)	DLA DDC DLIS DSCR DLA One Book Industrial Capabilities Section AFI 23-101 Air Force Materiel Management DoD 4140.1-M DoD Supply Chain Materiel Management AFMCI 24-201 AFMC Packaging and Materials Handling Policies and Procedures **Sample Documents:** LCSP Sample PMA/SMA Sample SERD Sample	Technical Maturation Risk Reduction Engineering & Manufacturing Development Production and Deployment Operations and Support

11. Coordinate with DLA Disposition Services for Disposal/Reutilization of Items (Reference Task 5.51 and 6.67)		

EXIT CRITERIA:
Supply Requirements Determination PHS&T Requirements Consumable Item Management Cataloging and Standardization of Items Procurement of DLRs Disposal/Reutilization of Items WSDC Assignment DMSMS Program Plan

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
6.18	Equipment Specialist	Equipment List (Installation and non-configured items) Government Furnished Property (GFP-MAT) Support Equipment (SE) Material List Unique Tooling Unique Facility Equipment (Uninterruptible Power Supply, Generators, Filter, etc.) Unique Test Equipment Software/Hardware support equipment (Hardware/Software/Firmware/Installation Equipment)

DESCRIPTION:

The purpose of the Equipment Specialist is to assist in planning for and implementing effective DoD equipment management activities and practices during all life cycle phases of defense systems and configuration/non-configured items. It supports acquisition based on performance specifications, and the use of industry standards and methods to the greatest practicable extent throughout all phases of the life cycle from concept exploration to disposition and disposal. Activities and practices include:
  Equipment/Material Identification
  Equipment/Material Control
  Equipment/Material Status Accounting
  Equipment/Material Verification and Audit
  Equipment/Material Data Management

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Understand MIL-HDBK-61A, local and contractor Equipment Control process. 2. Become a participating member of the EC and Diminishing Manufacturing Sources and Material Shortages (DMSMS) teams. 3. Review proposed changes for equipment considerations and impacts (i.e. Product Support Elements) 4. Initiate actions to ensure supportability considerations are implemented as required 5. Follow local exhibit management, storage, processing, and disposal procedures 6. Make appropriate planning and control to system documentation i.e.; • Installation Drawings • Master Equipment List • Equipment/Material Technical data Reference task 6.41.1 (Non-configured Drawings, TO, Data, etc.) • Equipment/Material Spares • Equipment/Material Support Equipment • Equipment/Material Calibration	AFI 63-101/20-101, Integrated Life Cycle Management AFPD 63-1/20-1 Integrated Life Cycle Management DoDI 5000.02 Operation of the Defense Acquisition System DoD PSM Guidebook Weapon System Acquisition Reform Act Defense Acquisition Guidebook MIL-HDBK-61A Configuration Management Guidance ANSI/EIA 649A Click on "Standards"	Materiel Solution Analysis Engineering & Manufacturing Development Production & Deployment Operations & Support

EXIT CRITERIA:

Identify Equipment supportability Issues (EC Checklist)
Verified EC incorporated in all affected items with appropriate documents
Status Equipment accounting data base appropriate to each phase
Equipment Management-competent contractor base
Equipment Management process performance measured and continuously improved
Lesson learned

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TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
6.31	Post Production Support Planning	

DESCRIPTION:

Post-Production Support Planning (PPSP) occurs primarily during system development and is required by DoD 5000.2-R. PPSP is a joint endeavor shared by government and industry. To achieve maximum, affordable readiness throughout a system's life cycle, careful planning is required prior to, during, and beyond production. PPSP is required by the DoD 5000.2-R and occurs primarily during system development. To assist the acquisition community in PPSP, the Joint Service Guide for Aviation Post Production Support Planning dated October 1997, was created. This guide was developed by the Joint Services Technical Working Group, under the direction of the Aviation Logistics Board (ALB) of the Joint Aeronautical Commanders Group (JACG). It provides guidance and assists program and logistics managers in understanding and applying post-production support planning to all aviation weapon system/subsystem programs within DoD.

Additional tools designed to assist program managers and logistics professionals prepare integrated logistics support and supportability planning documentation can also be found at the U.S. Army Materiel Command (AMC) Logistics Support Activity (LOGSA) Tools site. DoD Supply Chain Materiel Management Regulation DoD 4140.1-M **also** provides post production support planning information as it relates to Diminishing Manufacturing Sources and Material Shortages (DMSMS). Further information related to obsolescence planning, DMSMS, and technology insertion can be found on the Obsolescence and DMSMS DAU Logistics Community of Practice site.

Additional post production support-related information is also available in Chapter 5 of the DoD Defense Acquisition Guidebook.
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CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
Prepare Execution Plan 1.Complete Executive Summary, Introduction, Purpose, and Scope 2 Define Roles and Responsibilities detailing retention, transfer and disposal for the weapons system in compliance with Air Force policies and procedures between Air Force Sustainment Center (AFSC), Inventory Control Points (ICP), Aerospace Maintenance and Regeneration Group (AMARG), and Defense Logistics Agency (DLA) 3.Complete Asset Dissemination Roadmap, detailing reutilization, storage and disposal 4.Define and detail any special disposal requirements, e.g., Hazardous Material, Recycling, etc. 5.Detail recommendations • Aircraft Disposal – Identify the storage facility and any associated storage categories. Conduct site survey to ensure requirements. • Spares - Where is the storage facility for spares and production kits • GFE - Determine which facility is utilized for the government furnished equipment (GFE) and how the inventory will be accomplished • Technical Orders (TOs) – IAW with TO-00-5-3 status TOs • Cost associated with all bullets identified but not limited to those listed	AFI 63-101/20-101 Integrated Life Cycle Management AFI 16-402 Aerospace Vehicle Programming, Assignment, Distribution, Accounting, and Termination AFI 23-101 Air Force Materiel Management AFMCI 23-111 Reclamation of Air Force Property DoD 4160.21-M Defense Materiel Disposition Manual DoD 4160.28-M Defense Demilitarization: Procedural Guidance AFI 32-7042 Waste Management DoDI 4715.4 Pollution Prevention	Technology and Development Phase Early in Engineering, Manufacturing and Development (EMD) Production and Deployment Phase Operations and Support Phase

• Coordinate with the LCMC or prime AFSC PHS&T office on packaging & transportation input. 6. Develop a schedule 7. Determine Funding Requirements	10 USC 2577 Disposal of Recyclable Materials Executive Order 12780 Federal Agency Recycling and the Council on Federal Recycling and Procurement Policy TO-00-5-3 Technical Manual Methods and Procedures DoD 5000.02 Operation of the Defense Acquisition System AFI 24-210_IP Packaging of Hazardous Materials AFMAN 24-204_IP Preparing Hazardous Materials for Military Air Shipments	

EXIT CRITERIA:

Completion of PPS Checklist addressing: Maintenance Planning; Manpower and Personnel, Facilities; Supply Support; Support and Test Equipment; Technical Data and Technical Manuals; Training and Training Devices; Packaging, Handling, Storage and Transportation; Computer Resources Support; Design Interface
Completion of approved Execution Plan

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
6.33	Manage Sustainment Business Activities	Initial Capabilities Document (ICD) Capability Development Document (CDD) Capability Production Document (CPD) CONOPS Defense Acquisition Officer (DAO) Assignment Sustainment System Program Manager (PM) assignment Mission Assignment Process (MAP) Production contract Sustainment Contracts Program Management / Services Management Agreements (PMA/SMA)s Performance Based Agreements (PBA)s Life Cycle Sustainment Plan (LCSP) Transfer Plan Materiel Fielding Plan Initial Operational Capability (IOC) and/or Full Operational Capability (FOC) Milestone C approval

DESCRIPTION:

Sustainment Program Management is the process of executing Program Management for an operational fielded system, beginning during the Production and Deployment phase, and maturing and normalizing during the Operations and Sustainment phase of the life cycle. This Sustainment Management process includes the entire set of management, technical, and logistics support efforts and tasks needed to plan, fund and execute a successful sustainment program to sustain, support, maintain and improve the assigned weapon system. Sustainment Program Management leads and manages the overall sustainment management program to support weapon system availability and capability requirements and meet warfighter mission requirements. Sustainment Management also includes adding new capability based on approved MAJCOM and COCOM requirements, and continues through disposal of the weapon system and drawdown of the sustainment program office. The Sustainment Program Manager leads a team of functional experts, including, system engineers, security engineers, equipment specialists, inventory managers, etc., and is supported by financial managers, contracting specialists, and other functional experts as required.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Execute, lead and manage the overall Sustainment Program for assigned system, subsystem, or system segment 2. Utilize applicable guidance executing the Sustainment program 3. Perform as IPT Lead for the Sustainment Management Team, leading and guiding all team members, supporting personnel, support organizations and support contractors to maintain required system availability, improve system capability, and meet mission objectives in a highly effective and efficient manner 4. Effectively and efficiently manage and employ resources, e.g.,, personnel, funds, etc., to meet or exceed all cost, schedule and performance requirement for assigned system/subsystem 5. Identify HSI relevant issues that can be used to provide inputs to modifications and lessons learned. 6. Analyze, manage and report resource deficiencies, e.g.,, funding, personnel,	DoDD 5000.01 The Defense Acquisition System DoDI 5000.02 Operation of the Defense Acquisition System DoD PSM Guidebook Weapon System Acquisition Reform Act Defense Acquisition Guidebook AFMCI 63-1201 Implementing Operational Safety, Suitability and Effectiveness (OSS&E) and Life Cycle Systems Engineering	Operations & Support

infrastructure capabilities, etc., up the execution and command chains to advocate for resolution. This includes modernization of depot facilities as required.

7. Review and update LCSP, PMA/SMAs, PBAs, SEP, to include Item Unique Identification (IUID) Implementation Plans, ISP and other program management and technical documentation as required to maintain the management and technical baselines for the program, and support User and system maintenance and support requirements

8. Execute MAJCOM approved sustainment and upgrade/modification requirements according to MAJCOM approved priorities, in support of the warfighter mission

9. Manage effective Performance Based sustainment and support contracts, by developing processes, work products, and tailored CDRLs to facilitate effective execution of the contract requirements, and include appropriate contractual quantitative and qualitative performance measures, to require and incentivize adequate availability, improved capability, reduced Logistics Footprint, adequate Logistics Response Times, and reduced life cycle cost

10. Manage re-competition efforts for expiring sustainment, support and upgrade/modification contracts

11. Manage and measure performance of organic support providers, e.g.,, SCM, Depot Maintenance Activities, etc., IAW PBAs requirements

12. Develop, submit, and advocate for Sustainment budget

13. Effectively and efficiently execute Sustainment funds to satisfy User / Warfighter requirements IAW MAJCOM approved priorities

14. Conduct and support Sustainment Management Reviews, PMRs, PIWGs and other technical and management reviews with MAJCOM/User, PM, PEO/DOA, and higher Headquarters as required

15. Establish and foster working relations with User/MAJCOM, organic and contractor support providers, and higher Headquarters to facilitate effective and efficient support to the warfighter, and successful program execution

16. Ensure Data Management activities, tools and processes are effectively managed and executed

17. Ensure all engineering, technical and system baseline configuration management activities are effectively managed and executed

18. Ensure all maintenance activities are effectively managed and executed

AFI 99-103 Capabilities Based Test and Evaluation

AFI 63-131 Modification Management

AFI 63-101/20-101 Integrated Life Cycle Management

AFPD 63-1/20-1 Integrated Life Cycle Management

DoDI 8500.01 Information Assurance (IA)

AFPAM 63-128 Integrated Life Cycle Management

Preservation and Storage of Tooling for MDAPs

HSI Acquisition Phase Guide

HSI Handbook

Joint Lessons Learned Information System (JLLIS)

Product Data Acquisition Guidance

Material Fielding Plan

Sample Documents:
LCSP Sample
PMA/SMA Sample
ICD Summary
PPP Sample
SEP Summary

19. Ensure all supply chain management activities are effectively managed and executed		
20. Ensure all IA and system certification activities are effectively managed and executed		
21. Ensure all Program Protection Planning and System Security Management activities are effectively managed and executed		
22. Ensure all test and verification activities are effectively managed and executed		
23. Stay current on and execute all legal and policy requirements pertaining to Sustainment Management of assigned system		
24. Assess User satisfaction with sustainment management and support provided by the PM and all support providers and improve processes as required to ensure customer satisfaction		
25. Oversee all Reclamation, Re-Use, Disposal, and migration activities for assigned system		

EXIT CRITERIA:

Updated ICD, CDD, CPD
Updated CONOPS
Management and Execution of Sustainment and Support Contract
Compliance with Laws and Policy
CDRL Deliverables
Managing New and Re-Competition Efforts for Sustainment and Upgrade/Modification Contracts
Updated TOs, Specifications, and Engineering Data
Well Managed Supply Chain
Efficient and Effective Depot Maintenance Management
Maintained or Improved System Availability
Improved Weapon System Capability
Improved Effectiveness and Efficiency of Sustainment Program Management
Updated LCSP
Budget Planning and Execution Documents
Updated PMA/SMAs
Updated PBAs
Updated SEP
Updated ISP
Updated Program Protection Plans and Security Classification Guides (Sags)
Engineering/Technical Studies, Analyses and Reports
Management Studies, Analyses, and Reports
Cost/Benefit and Business Case Analyses and Reports
Briefings to Air Force/DoD Leaders, Managers, MAJCOMs/COCOMs and Warfighters
Program Reviews
Weapon System Reliability, Availability and Equipment Status Reports

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:	
6.35	Manage Information and Communication Activities	Requirement for Logistics IT System(s)	

DESCRIPTION:

The logistics information systems are critical to providing acquisition logisticians with rapid, current, and complete logistics information for making informed command and control decisions.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Obtain an Information System Management Tool (ISMT) account 2. Submit a Communications and Information Systems Requirements Document (CSRD) via ISMT Requirements Document Tracking Module (RDTM) 3. Provide support as required throughout the Logistics IT Requirements Management Process 4. Ensure all IT systems are registered in the Enterprise Information Technology Data Repository (EITDR) 5. Ensure all Authority to Operate (ATO) and Authority to Connect (ATC) has been obtained for all IT systems Note: Review the Enterprise Logistics Flight Plan (ELFP) for compliance with architecture – creation of Operational/System/Technical View document may be required.	ISMT Web Site AFMC Requirements Management Plan located on the AFMC/A4N SharePoint AFI 33-210 Air Force Certification and Accreditation (C&A) Program (AFCAP) AFMC Logistics IT Governance DoD LA Guidebook ELFP	Engineering & Manufacturing Development Production & Deployment Operations & Support

EXIT CRITERIA:

Disposition of CSRD/Baseline Change Requests (BCR) directed towards the affected IT systems.

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
6.41.1	Manage Technical Order (TO) Sustainment	Formal Technical Orders and supporting data Technical Order Management Plan (TOMP) Maintenance Strategy Product Support Strategy Transition Support Plan (TSP) Life Cycle Sustainment Plan (LCSP)

DESCRIPTION:

Technical Orders must be sustained and maintained to ensure currency, completeness and accuracy for support of affected equipment. Sustainment includes: updating, numbering, indexing, publication (editing and printing), stocking, and delivery to the user. The organization or individual assigned TO sustainment responsibility is called the Technical Order Manager. The TO content is managed by the equipment specialist (ES) or engineer responsible for the equipment covered by the TO. This individual is known as the Technical Content Manager (TCM). This checklist gives instructions on the processes used to maintain a technical order from TO formalization to equipment disposal.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Number and index TOs. See TO Numbering and Indexing Process Flow. 2. Manage the correction and improvement of TOs through the TO update process. See TO Improvement Process Flow. 3. Manage the verification process for new TOs and TO updates. See TO 00-5-3 and the Technical Order Life Cycle Verification Plan (TOLCVP). 4. Publish TOs and updates. Includes developing, formatting, pre-pub review and printing. See TO Publishing Process Flow 5. Stock and store TOs IAW TO 00-5-3 6. Distribute TOs IAW validated orders received through the TO Management System (JCALS, soon to be replaced by ETIMS). Ensure a digital copy is provided to the Air Force TO Archives. See TO 00-5-3. 7. Develop TO budget inputs based on the Comprehensive Air Force Technical Order Plan (CAFTOP). See TO 00-5-3. Ensure TO budget inputs are inserted into CAFDEx. See task 5.25 8. Evaluate and approve Commercial Off-The-Shelf (COTS) manuals for equipment support as required. See MIL-PRF- 32216 9. Review and rescind TOs when no longer required. See TO 00-5-3.	TO 00-5-3 AF Technical Manual Acquisition Procedures TO 00-5-18 AF Technical Order Numbering System TO 00-5-1 AF Technical Order System AFRIMS (T33-40 R 03.00) Enhanced Technical Information Management System (ETIMS) ETIMS is the prescribed method of accessing the 00-5 series of TOs. To request access, users should send an e-mail to af.todo1@eglin.af.mil which identifies their full name, AF portal ID and the TOs or TO Series to which access is required Develop TO strategy Technical Order Contract Requirements TO Delivery Requirements TM-86-01 TO Verification Planning TO Verification Manage TO Improvement System TO Improvement Process Flow TO Numbering and Indexing Process Flow TO Publishing Process Flow AFI 63-101/20-101, Integrated Life Cycle Management AFI 65-601 Vol. 1 Budget Guidance and Procedures MIL-PRF-32216 Evaluation of Commercial Off-the-Shelf (COTS) Manuals and Preparation of Supplemental Data Centralized Asset Management Centralized Access For Data Exchange (CAFDEx)	Production & Deployment Operations & Support

| | CAFDEx Access Instructions | |
| | Logistics Requirements Determination Process (LRDP) See Section 2.10 | |

EXIT CRITERIA:
Sustainment of quality TOs that satisfy the needs of the users
Disposal of Technical Orders

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
6.41.2	Continue Collecting and Refining Data to support System Life cycle Integrity Management (SLIM)	Supply and Maintenance Data Operational Data Deficiency Reports OSS&E baseline document Systems/Product Specifications Technical Orders

DESCRIPTION:

SLIM is the integration of Weapon System Improvement Program (WSIP), Condition Based Maintenance (CBM+), Reliability Centered Maintenance (RCM), Aircraft Information Program (AIP), Military Flight Operations Quality Assurance (MFOQA), and Reliability, Availability and Maintainability (RAM) efforts. The purpose is to implement standardized engineering processes/tools associated with optimizing resources and increasing proactive system monitoring and performance assessment leading to product improvement throughout the system life cycle.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Monitor and assess systems performance in accordance with the System Information Master Plan (SIMP), - Collect, store and maintain usage, maintenance and sensor data - Assure/facilitate data access - Implement and standardize diagnostics, prognostics and R&M tools Improve feedback processes from operations and maintenance to engineering and Life cycle management 2. Perform analysis to integrate Productivity Improvements e.g.,, WSIP, Military Flight Operations Quality Assurance (MFOQA), RAM, RCM and CBM (+) efforts - Maintain and update plans, maintenance programs, diagnostic and prognostic algorithms, analysis, models, and requirements developed in previous phases of the life cycle as required. - Maintain and update CBM+, RAM, WSIP, RCM/MSG-3, HVM, AIP, L/ESS, IATP, and MFOQA programs and capabilities throughout the system life cycle 3. Influence resource allocation - Validate and update LCCE associated with SLIM elements - Plan, program and budget for Productivity Improvements	AF SLIM Guide DoD CBM+ Guidebook AFMCI 21-103 Reliability Centered Maintenance DoD RAM Guide DoD Reliability, Availability, Maintainability and Cost Rationale Report (RAM-C) Manual MIL-HDBK-515 Weapon System Integrity guide (WSIG) MIL-STD-1530C Aircraft Structural Integrity Program (ASIP) AFI 63-140 Aircraft Structural Integrity Program (ASIP) MIL-STD-3024 Propulsion System Integrity Program (PSIP) MIL-STD-1798 Mechanical Equipment and Subsystems Integrity Program (MECSIP) AFPD 63-1/20-1 Integrated Life Cycle Management AFMCI 21-103 Reliability Centered Maintenance AFI 90-1301 Implementing Military Flight Operations Quality Assurance (MFOQA) AFI 90-1301 Implementing Military Flight Operations Quality Assurance (MFOQA) AFMC Supplement AFH 63-1402 Aircraft Information Program AFH 63-1402 Aircraft Information Program AFMC Supplement	Operations and Support

4.	Initiate product improvements for diagnostics, prognostics and continuous process improvement initiatives	DoDI 4151.22 Condition Based Maintenance Plus (CBM+) for Materiel Maintenance	
		CJCSI 3170.01I Joint Capabilities Integration and Development System	
		AFI 63-101/20-101 Integrated Life Cycle Management	

EXIT CRITERIA:
Revised Maintenance Data Updated OSS&E Baseline Documents Closed Deficiency Reports Updates Technical Orders Updated OSS&E baseline

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
6.50	Management of Warranties for Contractor Logistics Support (CLS) Commercial Contracts	Cost Benefit Analysis (CBA) Essential Performance Requirements (EPRs)

DESCRIPTION:

A warranty is a promise or affirmation given by a contractor to the Government regarding the nature, usefulness, or condition of the supplies or performance of services furnished under the contract. When the responsible PM determines a warranty is appropriate for certain items or systems, the PM shall request technical evaluation and input to the warranty requirements, and provide input documenting the type of warranty required, terms and conditions for enforcement, corrective actions to resolve warranty claim, etc.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE

1. Materiel Solution Analysis and Technical Maturation Risk Reduction:
  a. Determine the appropriateness of a warranty
  b. Select potential EPRs to warrant
 	
2. Engineering and Manufacturing Development (EMD):
  a. Determine the appropriateness of a warranty
  b. Develop a cost benefit analysis (CBA)
  c. When cost beneficial, alert the Contractor that a warranty is required
  d. Warranty manager appointed by the PM within 30 days of Milestone B decision
  e. Warranty Team is convened within 90 days of Milestone B decision
  f. Warranty strategy planning is initiated
  g. Warranty requirements are drafted for inclusion in EMD or Production RFP
  h. Warranty Team develops the Warranty Plan
  i. Warranty Team evaluates warranty data collection and tracking systems
  j. Chief of Contracting Office and PM approve Warranty Plan
 	
3. Production and Deployment Phase:
  a. Refine warranty provisions for inclusion in the Production RFPs
  b. Define EPRs
  c. Update the CBA and Warranty Plan
  d. Obtain assessment of proposed EPRs
  e. Finalize EPRs
  f. Finalize CBA
 	
4. Operations and Support:
  a. Evaluate warranty administration, data collection and tracking system procedures
  b. Revise Warranty Plan as required
  c. Revise warranty clauses as needed
  d. Tailor clauses and administration procedures to include closeout administration
 	
5. Close Out:
  a. Verify that the warranty is complete.
	AFMCI 20-102
	
	DoD Warranty Guide
	
	AFI 63-101/20-101, Integrated Life Cycle Management
	
	FAR Part 46 "Quality Assurance": Subpart 46.7 – "Warranties"
	
	DFARS Subpart 246.7 "Warranties"
	
	DFARS Subpart 246.704 "Authority for Use of Warranties"
	
	FAR Subpart 46.703 "Criteria for Use of Warranties"
	
	FAR Subpart 46.706 "Warranties Terms and Conditions"
	
	FAR 46.709 "Warranties of Commercial Items"
	
	FAR Subpart 52.212-4 "Contracts Terms and Conditions-Commercial Items"
	
	DFARS 211,204 "Solicitation Provisions and Contract Clauses"
	
	Office of the Under SECDEF Memo Apr 2012 "Final Rule Warranty Tracking for Serialized Items", The Electronic Tracking of Warranties by Serial Number
	
	SUBPART 204.71— "UNIFORM CONTRACT LINE ITEM NUMBERING
		Materiel Solution Analysis
		
		Technical Maturation Risk Reduction
		
		Engineering & Manufacturing Development
		
		Production & Deployment
		
		Operations & Support

b. Tracking and enforcement mechanisms must be in place during the warranty period of performance.	SYSTEM", (Revised August 28, 2014)	
	FAR 46.710 / 48 CFR Chapter 1 "Contract Clauses"	
	Military Standard 130, "Standard Practice for Identification Marking of U. S. Military Property", latest version.	
	Military Standard 129, "Military Marking for Shipment and Storage"	
	DFARS 252.211-7003, "Item Unique Identification and Valuation"	
	Military Standard 961, "Defense and Program-Unique Specifications Format and Content"	
	FAR—Part 12 "Acquisition of Commercial Items", Subpart 12.404 "Warranties"	
	DFARS 211.2, Subpart 252.211-6 "Contract Clauses"	
	DFARS 211.274-2 "Policy for item unique identification".	
	DFARS 252.246-7005 "Notice of Warranty Tracking of Serialized Items."	
	DFARS Subpart 246.704(2) "Authority for Use of Warranties"	
	DFARS 246.7 "Warranties"	
	DFARS 211.274-6 "Contract Clauses"	
	DFAR Subpart 215.470 "CDRLs and DIDs"	
EXIT CRITERIA:		
Verification that the warranty is complete.		

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
6.56	Modification Management (AF Form 1067)	Product baseline and specifications AF form 1067 Modification Proposal Initial Capabilities Document (ICD) (As Required) Funding

DESCRIPTION:

ACAT level modifications are treated as new acquisitions and would start at the beginning in the PS Tool Kit. Refer to AFI 63-131 for specific determination of mod type. Follow the tasks as for a new program and tailor them.

Modification Management refers to non-ACAT level modification for this checklist. This is a non-inclusive overview, so continue to use applicable tasks in Operation and Support Phase. In this checklist, modifications are upgrades or changes that impact the product baseline. These efforts will be able to follow a tailored process.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Ensure that the proposed modification requirement is approved; this is done via AF Form 1067 in response to maintenance, new capability, or operational problems. Supportability consideration must be addressed when finalizing the requirement 2. Ensure HSI implications, constraints and other issues are thoroughly addressed in the process. See task 2.13.1 HSI. 3. IPT assigned to work the modification as a Material improvement Project or ECP. Systems engineering process is used to determine feasibility, OSS&E, and estimated costs 4. Funding for the Mod must be identified. Valid P3A and R2 documentation must be provided in accordance with AFI 65-601 5. Lead command approves the modification plan 6. Depending on the size of the mod an IMP/IMS may be developed 7. Participate in the risk assessment/analysis 8. Consult Intelligence for threat baseline currency. Reference Appendix A, Checklist 1.1 9. Ensure Program Protection Plan is Updated 10. Develop requirement baseline specification 11. Determine options and select modification plan. Block updates could include several modifications depending on accessibility of the equipment system (platform) or other considerations 12. Following CCB approval, contracting actions are prepared or organic sources scheduled to perform initial mod. See checklist 3.47.3 for detailed CCB information 13. Testing may be required for the modification. T-2 mod could in fact be used for this testing. Ensure all supportability considerations are planned for any testing or T-2 program. See AFI 63-131 for detailed T-2 process 14. Following successful test, perform PCA/FCA if needed	AFI 63-131 Modification Management (T-2 on pp 15) (permanent mod process on pp 18) AF Form 3525 CCB Modification Requirements and Approval Document AF Form 1067 Modification Proposal AFMC Form 518 Configuration Control Board Directive AFI 65-601 Vol. 1 Budget Guidance and Procedures CJCSI 3312.01A Joint Military Intelligence Requirements Certification AFI 14-111 Intelligence Support to the Acquisition Life Cycle AFI 14-202V3 General Intelligence Rules HSI Requirements Pocket Guide Product Data Acquisition Guidance Organic Modification Checklist (5-14-2013) (AFSC Product)	Operations & Support

15. Communicate supply chain management requirements. This includes communicating with DLA and AFSC for spares support 16. The installation schedule is completed, and may entail installation kits. Ensure that all support requirements are planned. This can include TO changes, Support Equipment, training, and spares. For additional information on TOs see checklist 6.56.1 17. Kit proofing must also be supported by appropriate manpower and resources 18. Update system product baseline including any specification, drawing etc. 19. Ensure that technical support is planned for modification installation. This may include organic depot field teams or Contractor Field Teams (CFT)s. Often this is done at the operational location in the field 20. For temporary modifications (T-2), the final step is returning equipment to the original configuration 21. Ensure compliance with Item Unique Identification (IUID) requirements		
EXIT CRITERIA:		
Updated Product Baseline and OSS&E Baseline Temporary Modification (T-2) completed and returned to original configuration Completed modifications Closed AF Form 1067		

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
6.56.1	Manage Time Compliance Technical Order (TCTO) Process	Configuration Control Board (CCB) approved: Engineering Change Request or Order Engineering Change Proposal (ECP) Engineering Change Notice (ECN) Technical Order Management Plan (TOMP)Technical Order Verification Plan (TOVP)Technical Manual Contract Requirements (TMCR) Document, TM-86-01 Maintenance Strategy Product Support Strategy

DESCRIPTION:

TCTOs shall be used to document all permanent modifications, update changes and retrofit changes to standard Air Force (AF) systems and commodities. TCTOs are authorized by TO 00-5-1. They provide instructions for modifying military systems or commodities within specified time limits, initiate special ''one time'' inspections, or impose temporary restrictions on systems or commodities. This checklist gives instructions on the TCTO process used to maintain and update equipment configuration.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Initiate TCTO package. (AFMC Forms 873, 874, 875 and AFTO Form 82). Ensure funding has been addressed prior to the Configuration Control Board (CCB) 2. Obtain TCTO number from JCALS / ETIMS, assign data code number (provided by the numbering specialist @ OC-ALC) and establish a Reliability and Maintainability Information System (REMIS) record. 3. Develop formal or interim TCTO IAW TO 00-5-15, 00-5-1 and MIL-PRF-38804. 4. If required, provide advanced notifications of Interim TCTO IAW TO 00-5-15. 5. Develop TO updates as required to document TCTO "before" and "after" data. 6. Develop and number TCTO Kits as required by the complete kit concept (TO 00-5-15) 7. Perform TCTO verification (kit proofing) of the TCTO, any applicable TO updates and the TCTO kit. 8. Publish and distribute formal or interim TCTO, TO updates and TCTO kit concurrently to meet compliance period schedules. 9. Rescind TCTO after compliance or upon reaching the rescission date. Update TOs to remove "before" data. Disposition kits after completion/rescission. 10. Update REMIS and JCALS records as necessary	Technical Order Contract Requirements TM-86-01 Generic TOMP Generic Technical Order Life Cycle Verification Plan (TOVP) TO 00-5-1 Air Force Technical Order System TO 00-5-18 Air Force Technical Order Numbering System TO 00-5-15 Air Force Time Compliance Technical Order Process Enhanced Technical Information Management System (ETIMS) ETIMS is the prescribed method of accessing the 00-5 series of TOs. To request access, users should send an e-mail to af.todo1@eglin.af.mil which identifies their full name, AF portal ID and the TOs or TO Series to which access is required AFI 63-101/20-101, Integrated Life Cycle Management AFI 65-601 Vol. 1 Budget Guidance and Procedures TCTO Development Flow Chart MIL-PRF-38804 Performance Specification Time Compliance Technical Orders – Preparation	Production & Deployment Operations & Support

	Sample Documents: TMCR Sample	
Completion of modification to all affected equipment Rescission of TCTO		

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
6.65.1	Provide Support Equipment Disposition	Life Cycle Sustainment Plan (LCSP) Program Established Acquisition Decision Memorandum (ADM)

DESCRIPTION:
Disposal of Equipment

CHECKLIST SUBTASKS:		
TASK	SOURCE DOCUMENTATION	PHASE
1. Ensure points for Checklist 3.37.2 are updated 2. Ensure points for Checklist 3.37.3 are updated 3. Ensure points for Checklist 3.37.6 are updated 4. Determine reason for disposal 5. Coordinate with item managers for shipping instructions 6. Dispose of equipment according to Item manager instructions	AFI 63-101/20-101, Integrated Life Cycle Management DoD LA Guidebook AFPAM 63-128 Integrated Life Cycle Management AFMC Guide to the Defense Depot Maintenance Council Cost Comparability Handbook. AFPD 23-1 Materiel Management DoDI 4160.28 DoD Demilitarization (DEMIL) Program DoD 4160.28-M Vol. 1 Defense Demilitarization: Program Admin DoD 4160.28-M Vol 2 Defense Demilitarization: DEMIL Coding DoD 4160.28-M Vol 3 Defense Demilitarization: Procedural Guidance DoD DEMIL Web Page AFI 23-101 Air Force Materiel Management **Sample Documents:** LCSP Sample Risk Management Plan Sample	Operations & Support

EXIT CRITERIA:
Approved Integrated Risk Assessment, POE or other cost estimate as described in AFI 63-101/20-101. Documentation of the source data for the POE product support elements. Updated Life Cycle Sustainment Plan (LCSP)

TASK #	PROCESS NAME:	ENTRANCE CRITERIA:
6.67	Disposing of Weapon System, Major end items and associated components	Weapon System / End Item enters the Air Force inventory Life Cycle Sustainment Plan (LCSP)

DESCRIPTION:

This checklist gives instructions on actions required to ensure readiness to dispose of items as well as the disposal process.

CHECKLIST SUBTASKS:

TASK	SOURCE DOCUMENTATION	PHASE
1. Planning for demilitarization and disposal of items starts during cataloging of all components/completion of design of a weapon system. The demilitarization and classification codes for all items must be identified as soon as material designs are documented. Procedures on how to demilitarized/sanitize (declassify) parts/components must also be developed. For non-stock listed items, the program office must still develop/identify these requirements. 2. Prototypes that are not used for production/fielded must be demilitarized when they are no longer required. 3. The Program Office, during design process, must document hazardous material, and estimate the cost and plan for the system's demilitarization and safe disposal. A Demilitarization and Disposal Plan for the weapon system should be generated prior to DT&E and created/updated when a system is modified/upgraded, the security classification guide is significantly changed, and prior to release of a system to a non-governmental agency. 4. Coordinate with Human Systems Integration (HSI) SME for planning Disposal activities to prevent unintended human impacts. 5. The Program Office must program/budget for the cost to prepare turn-in documents, remove/dispose of hazardous material and perform demilitarization actions required for classified/DEMIL G, P, and F coded items (if the service is determined as responsible for DEMIL. This includes long term facilities storage requirements. 6. Once weapon systems, end items are identified as excess to the Air Force, reclamation must be considered/ performed. 7. Aircraft and Missiles which are retained for future reclamation must be evaluated for potential reclamation and the program office must determine when retention is not cost effective. 8. Reutilization, transfer, donation, sale, actions must be taken IAW AFI 23-101. 9. Coordinate with local qualified recycling program (QRP) for disposition of QRP eligible materials/commodities. 10. Provide inputs to appropriate lessons learned repositories	DoDI 4160.28 DoD Demilitarization (DEMIL) Program DoD 4160.28-M Vol. 1 Defense Demilitarization: Program Admin DoD 4160.28-M Vol 2 Defense Demilitarization: DEMIL Coding DoD 4160.28-M Vol 3 Defense Demilitarization: Procedural Guidance DoD DEMIL Web Page AFI 23-101 Air Force Materiel Management DoDI 5000.02 Operation of the Defense Acquisition System DoD PSM Guidebook Weapon System Acquisition Reform Act Defense Acquisition Guidebook (5.1.3) AFMCI 23-111 Reclamation of Air Force Property Preservation and Storage of Tooling for MDAPs AFI 16-402 Aerospace Vehicle Programming, Assignment, Distribution, Accounting and Termination Joint Lessons Learned Information System (JLLIS)	Technical Maturation Risk Reduction Engineering & Manufacturing Development Production and Deployment Operations and Support

EXIT CRITERIA:
All Air Force owned / managed systems, all excess assets were appropriately reutilized, demilitarized/sanitized (declassified), transferred, and no longer on any Air Force inventory (Exception: assets may be on the National Museum of the Air Force's inventory). Update to LCSP

APPENDIX B - ACRONYMS

ACAT   Acquisition Category

ADM   Acquisition Decision Memorandum

AETC   Air Education Training Command

AF   Air Force

AFFARS   Air Force Federal Acquisition Regulation Supplement

AFI   Air Force Instruction

AFIMSC   Air Force Installation and Mission Support Center

AFMC   Air Force Materiel Command

AFMCI   AFMC Instruction

AFLCMC   Air Force Life Cycle Management Center

AFMCP   AFMC Pamphlet

AFMETCAL   Air Force Metrology and Calibration

AFNWC   Air Force Nuclear Weapon Center

AFOTEC   Air Force Operational Test and Evaluation Center

AFPD   Air Force Policy Directive

AFRL   Air Force Research Laboratory

AFSC   Air Force Sustainment Center

AFTC   Air Force Test Center

AICUZ   Air Installation Compatible Use Zones

AIS   Automated Information System

ALC   Air Logistics Complex

AMARG   Aerospace Maintenance and Regeneration Group

AMRB   Aircraft and Missile Requirements Board

AoA   Analysis of Alternatives

APB   Acquisition Program Baseline

AS   Acquisition Strategy

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ASIP	Aircraft Structural Integrity Program
ASP	Acquisition Strategy Plan
ASR	Alternative Systems Review
BCA	Business Case Analysis
BLRIP	Beyond Low Rate Initial Production
CAE	Component Acquisition Executive
CAG	Cost Analysis Group
CAIG	Cost Analysis Improvement Group
CAIV	Cost as an Independent Variable
CAM	Centralized Asset Management
CARD	Cost Analysis Requirements Description
CBM+	Condition Based Maintenance +
CCA	Component Cost Analysis
CCB	Configuration Control Board
CCP	Configuration Change Proposal
CDD	Capability Development Document
CDR	Critical Design Review
CDRL	Contract Data Requirements List
CFT	Contractor Field Team
CI	Configuration Item
CJCSI	Chairman Joint Chiefs of Staff Instruction
CJCSM	Chairman Joint Chiefs of Staff Manual
CLIN	Contract Line Item Number
CLS	Contractor Logistics Support
CM	Configuration Management
COA	Course of Action
COLT	Customer Oriented Leveling Technique

CONOPS	Concept of Operations
COTS	Commercial off the shelf
CPCP	Corrosion Prevention and Control Plan
CPD	Capability Production Document
CPI	Critical Program Information
CRRA	Capability Review and Risk Assessment
CSB	Configuration Steering Board
CSWS	Contractor Supported Weapon System
CTE	Critical Technology Elements
DAB	Defense Acquisition Board
DAG	Defense Acquisition Guide
DAU	Defense Acquisition University
DCMA	Defense Contract Management Agency
DFARS	Defense Federal Acquisition Regulation Supplement
DID	Data Item Description
DLA	Defense Logistics Agency
DLR	Depot Level Repair
DMAWG	Depot Maintenance Activation Working Group
DMI	Depot Maintenance Interservicing
DMISA	Depot Maintenance Inter-Service Support Agreement
DMSMS	Diminishing Manufacturing Sources and Material Shortages
DOD	Department of Defense
DODI	Department of Defense Instruction
DOTMLPF	Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities
DOT&E	Director, Operational Test & Evaluation
DPEM	Depot Purchased Equipment Maintenance

DRG	Direct Reporting Group
DRU	Direct Reporting Unit
DSOR	Depot Source of Repair
DT&E	Development Test and Evaluation
ECP	Engineering Change Proposal
EDMS	Engineering Data Management System
ELFP	Enterprise Logistics Flight Plan
EMD	Engineering & Manufacturing Development
EOA	Early Operational Assessment
ENSIP	Engine Structural Integrity Program
ERRC	Expendability Recoverability Reparability Category
ESOH	Environment, Safety, and Occupational Health
FAA	First Asset Available
FAR	Federal Acquisition Regulation
FCA	Functional Configuration Audit
FDE	Force Development EvaluationFM Financial Management
FMECA	Failure Modes, Effects and Criticality Analysis
FMRC	Flight Manual Review Conference
FMS	Foreign Military Sales
FMSP	Force Structure Maintenance Plan
FRACAS	Failure Reporting and Corrective Action System
FOT&E	Follow-on Operational Test and Evaluation
FRP	Full Rate Production
FTA	Failure Tree Analysis
FYDP	Future Year Defense Program
GFP-MAT	Government Furnished Property-Material
GIDEP	Government Industry Data Exchange Program

HSI	Human Systems Integration
IAW	In Accordance With
IBR	Integrated Baseline Review
ICA	Independent Cost Analysis
ICD	Initial Capabilities Document
ICE	Independent Cost Estimate
ICS	Interim Contractor Support
IETMS	Interactive Electronic Technical Manuals
ILA	Independent Logistics Assessment
ILS	Integrated Logistics Support
IMP	Integrated Master Plan
IMS	Integrated Master Schedule
IOC	Initial Operational Capability
IOT&E	Initial Operational Test and Evaluation
IPA	Independent Program Assessment
IPPS	Initial Provisioning Performance Specification
IPS	Intellectual Property (IP) Strategy (IPS)(Formerly known as Technical Data Rights Strategy (TDRS))
IPT	Integrated Process Team
IRA	Integrated Risk Assessment
ISP	Information Support Plan
ISR	In-Service Review
IUID	Item Unique Identification
ITR	Initial Technical Review
JCD	Joint Capabilities Document
JCIDS	Joint Capabilities Integration and Development System
JEDMICS	Joint Engineering Data Management Information Control

	System
JOC	Joint Operations Concept
JPG	Joint Programming Guidance
JROC	Joint Requirements Oversight Council
JITC	Joint Interoperability Test Command
KPP	Key Performance Parameter
KSA	Key System Attribute
LA	Logistics Assessment
LCCE	Life Cycle Cost Estimate
LCL	Life Cycle Logistics
LCMP	Life Cycle Management Plan
LCSP	Life Cycle Sustainment Plan
LFT&E	Live-Fire Test and Evaluation
LHA	Logistics Health Assessment
LMI	Logistics Management Information
LST&E	Logistics System Test and Evaluation
LORA	Level of Repair Analysis
LRIP	Low Rate Initial Production
MAIS	Major Automated Information System
MAJCOM	Major Command
MDA	Milestone Decision Authority
MDAP	Major Defense Acquisition Program
MDS	Mission Design Series
MEA	Maintenance Engineering Analysis
MECHSIP	Mechanical Systems Integrity Program
MIL-HDBK	Military Handbook
MIL-STD	Military Standard

MILCON	Military Construction
MILSTRIP	Military Standard Requisitioning and Issue Procedures
MIPR	Military Interdepartmental Purchase Request
MNS	Mission Need Statement
MOA	Memorandum of Agreement
MOSA	Modular Open Systems Approach
MPT	Manpower Personnel and Training
MRRB	Maintenance Requirements Review Board
MS	Milestone
MSD	Milestone decision
MTA	Maintenance Task Analysis
MTBF	Mean Time Between Failure
NDI	Non-Development Item
NEPA	National Environmental Policy Act
NIMSR	Non-consumable item material support request
OA	Operational Assessment
OPR	Office of Primary Responsibility
OSD	Office of the Secretary of Defense
OSS&E	Operational Safety, Suitability & Effectiveness
OT	Operational Test
OTA	Operational Test Agency
OT&E	Operational Test & Evaluation
OTRR	Operational Test Readiness Review
O&S	Operations & Support
PBD	Program Budget Decision
PBL	Performance Based Logistics
PCA	Physical Configuration Audit

PDAQ	Product Data Acquisition
PDR	Preliminary Design Review
PESHE	Programmatic Environment, Safety, & Occupational & Health Evaluation
PEO	Program Executive Officer
PHS&T	Packaging, Handling, Storage, and Transportation
PICA	Primary Inventory Control Activity
PIO	Provisioning Item Order
PGM	Product Group Manager
PLM	Product Lifecycle Management
PM	Program Manager
PMA/SMA	Program Management Agreement / Services Management Agreement
POE	Program Office Estimate
POM	Program Objective Memorandum
PPBE	Planning, Programming, Budgeting and Execution
PPP	Program Protection Plan
PPP	Public-Private Partnership
PPS	Provisioning Performance Schedule
PPSL	Program Parts Selection List
PR	Purchase Request
PRR	Production Readiness Review
PRT	Programmatic Risk Tool
PS	Product Support
PSE	Product Support Element
PSI	Product Support Integrator
PSM	Product Support Manager

PTD	Provisioning Technical Documentation
PWIG	Product Improvement Working Group
RAM	Reliability, Availability, Maintainability
RCM	Reliability Centered Maintenance
RDEL	Requirements Data Exchange List
REMIS	Reliability and Maintainability Information System
RFP	Request for Proposal
RFQ	Request for Quotation
RIB	Recoverable Item Breakdown
RIL	Repairable Items List
RIIM	Recoverable Item Inventory Manager
RLA	Repair Level Analysis
RM	Risk Management
RM&A	Reliability, Maintainability, and Availability
RMS	Reliability, Maintainability, and Supportability
ROE	Rules of Engagement
ROM	Rough Order of Magnitude
RSP	Readiness Spares Package
RUL	Remaining Useable Life
R&M	Reliability and Maintainability
SAE	Service Acquisition Executive
SAF	Secretary of the Air Force
SATAF	Site Activation and Fielding
SBSS	Standard Base Supply System
SDFP	Supplemental Data for Provisioning
SDT	Site Destination Transportation
SE	Systems Engineering

SEP	System Engineering Plan
SERD	Support Equipment Recommendation Data
SFR	System Functional Review
SLIM	System Life cycle Integrity Management
SMR	Source Maintenance Recoverability
SOE	System Operational Effectiveness
SOO	Statement of Objectives
SORA	Source of Repair Assignment
SPG	Strategic Planning Guidance
SRD	Standard Reporting Designator
SRM	Sustainment, Restoration & Modernization
SRR	System Requirement Review
SSR	Supply Support Request
SSP	Source Selection Plan
SSWG	Supply Support Working Group
STA	System Threat Assessment
SVR	System Verification Review
SVV	Software Verification and Verification
TAV	Total Asset Visibility
TCTO	Time Compliant Technical Order
TDP	Technical Data Package
TEMP	Test and Evaluation Master Plan
TLCSM	Total Life Cycle Systems Management
TMCR	Technical Manual Contract Requirements
TMDE	Test, Measurement, and Diagnostic Equipment
TMRR	Technical Maturation Risk Reduction

TO	Technical Order
TOC	Total Ownership Cost
TOMA	Technical Order Management Agent/Agency
TRA	Technology Readiness Assessment
TRR	Test Readiness Review
TSP	Transition Support Plan
T&E	Test & Evaluation
USC	United States Code
V&V	Verification and Validation
WBS	Work Breakdown Structure
WSDC	Weapon System Designator Code
WSER	Weapon System Enterprise Review
WSSP	Weapon System Support Program

APPENDIX C - GLOSSARY

AUTOMATED TEST EQUIPMENT (ATE): A generic terminology used for separate or built-in equipment satisfying a diagnostic or condition-indicating test function and processing an automatic capability. ATE can be either mission equipment or support equipment

AUTOMATIC TEST SYSTEM (ATS): Equipment, software, and data items required to operate and maintain ATE and software used thereon. This system includes test equipment, interface test adapters, test software, calibration software, compilers, programming information, and tester data but not offline automatic data processing equipment (ADPE) used to support software.

COMMON SUPPORT EQUIPMENT (CSE): Equipment item applicable to more than one system, subsystem or item of equipment; has a national stock number assigned to it and is currently in the Air Force inventory.

COMPUTER RESOURCES: Computer Resources includes the facilities, hardware, software, documentation, manpower, and personnel needed to operate and support computer systems and the software within those systems. Computer resources include both stand-alone and embedded systems. This element is usually planned, developed, implemented, and monitored by a Computer Resources Working Group (CRWG) or Computer Resources Integrated Product Team (CR-IPT) that documents the approach and tracks progress via a Computer Resources Life-Cycle Sustainment Plan (CRLCSP). Developers will need to ensure that planning actions and strategies contained in the ILSP (Integrated Program Summary (IPS) for space), and CRLCSP are complementary and that computer resources for the operational software, and ATE software, support software, is available where and when needed.

CONTRACTOR-FURNISHED EQUIPMENT (CFE): Items acquired or manufactured directly by the contractor and provided to the government during the execution of a contractor.

CORE - CORE DEPOT MAINTENANCE: Core Depot Maintenance is Organic Depot Capability required to assure mission support for the weapon system designated for the Joint Chiefs of Staff (JCS) contingency scenario(s). Core logistics capabilities must be performed at government-owned, government-operated facilities of the Department of Defense with government employee and government-owned equipment including government-owned, government operated facilities of a Military department.

DEFENSE ACQUISITION BOARD (DAB): Senior level forum for advising the Under Secretary of Defense (Acquisition, Technology, and Logistics) (USD (AT&L)) on critical decisions concerning designated acquisition programs. The DAB is composed of the Department's senior officials, service secretaries, as well as a user representative (Vice Chairman, Joint Chiefs of Staff)

DEPOT MAINTENANCE INTER-SERVICE SUPPORT AGREEMENT (DMISA): A formalized agreement, similar to a contract, whereby one Service (the Agent) obligates itself to provide depot maintenance support for another Service (the Principal). DMISAs may also be used when a Military Service is the Agent, and another Federal Government department or agency, or element thereof, is the Principal. DMISA is the DoD mandated method used to capture and document all multi-year interservice depot maintenance work unless the credit exchange method of support is selected.

DEPOT SOURCE OF REPAIR (DSOR): The DSOR is a two part process. Part I is the AF process called Source of Repair Assignment (SORA). The SORA includes the core logistics analysis, and 50/50 assessments. Part II is the DoD process called Depot Maintenance Interservice (DMI) Review.

DESIGN INTERFACE: Involves the relationship of logistics-related design parameters, such as Reliability and Maintainability (R&M), to readiness and support resource requirements. These logistics-related design parameters are expressed in operational terms rather than inherent values and specifically related to System Readiness Objectives (SROs) and support costs of the materiel system.

ENVIRONMENT, SAFETY, and OCCUPATIONAL HEALTH (ESOH): Environmental factors concern water, air, and land and the interrelationships which exist among and between water, air, and land and all living things. Safety factors are design and operational characteristics that minimize the possibilities for accidents or mishaps to operators or which threaten the survival of the system. Occupational Health factors are design features that minimize risk of injury, acute and/or chronic illness, or disability, and/or reduced job performance of personnel who operate, maintain, or support the system.

DoD policy requires PMs to integrate across the three ESOH disciplines and into systems engineering using the MIL-STD-882, System Safety process. MIL-STD-882E defines ESOH as the combination of disciplines that encompass the processes and approaches for addressing environmental compliance, and hazards associated with environmental impacts, system safety (e.g.,, [hazard management for] platforms, systems, system-of-systems, weapons, explosives, software, ordnance, combat systems), occupational safety and health, hazardous materials management, and pollution prevention.

FACILITIES: Includes the permanent, semi-permanent, or temporary real property assets required to operate and support the materiel system, including conducting studies to define types of facilities or facility improvements, locations, space needs, utilities, environmental requirements, real estate requirements, and equipment.

GOVERNMENT-FURNISHED PROPERTY (GFP-MAT): Property (material classification) in the possession of or directly acquired by the Government and subsequently furnished to the contractor for performance of a contract (integration into the system or deliverable end-item).

GROUND SUPPORT EQUIPMENT (GSE): Equipment that is required to directly assist in supporting weapon systems, subsystems and equipment, or provide a service to, or are an aid in performing maintenance on weapon systems whole on the ground. This equipment does not have test, measurement, or diagnostic capabilities as its principal function.

HABITABILITY: Factors of living and working conditions that is necessary to sustain the morale, safety, health, and comfort of the user population which contribute directly to personnel effectiveness and mission accomplishment, and often preclude recruitment and retention problems.

HUMAN FACTORS: The comprehensive integration of human capabilities and limitations (cognitive, physical, sensory, and team dynamic) into system design, development, modification and evaluation to optimize human-machine performance for both operation and maintenance of a system. Human Factors Engineering designs Systems that require minimal manpower, provide effective training, can be operated and maintained by users; and are suitable and survivable.

HUMAN SYSTEMS INTEGRATION: A process to ensure systems are designed and developed that effectively and affordably integrate with human capabilities and limitations. The HSI process considers human factors engineering, manpower, personnel, training (MPT) issues, and Environment, Safety, and Occupational Health (ESOH) aspects along with survivability and habitability throughout system design, development, fielding and sustainment.

INDEPENDENT COST ANALYSIS: A cost analysis conducted by an Independent Cost Analysis Team for the Space MDA

INDEPENDENT PROGRAM ASSESSMENT: Conference where an Independent Program Assessment Team (IPAT) assesses advancement to the next space program phase, on behalf of the Space MDA

MAINTENANCE PLANNING: The process conducted to evolve and establish maintenance/support concepts and requirements for the life cycle of a materiel system.

MANPOWER: A critical resource that supports an approved program. It is not a program by itself and should not be manipulated separately from the program it supports.

MANPOWER and PERSONNEL: The process of identifying and acquiring military and civilian personnel with the skills and grades required to operate and support a materiel system over its lifetime at peacetime and wartime rates.

MANPOWER REQUIREMENT: A statement of manpower needed to accomplish a job, workload, mission, or program. There are two types of manpower requirements: funded and unfunded. Funded manpower requirements are those that have been validated and allocated. Unfunded requirements are validated manpower needs but deferred because of budgetary constraints.

MILITARY CONSTRUCTION (MILCON: Appropriations that fund major projects such as bases, schools, missile storage facilities, maintenance facilities, medical/dental clinics, libraries, and military family housing.

PACKAGING, HANDLING, STORAGE and TRANSPORTATION (PHS&T): The resources, processes, procedures, design considerations, and methods to ensure all system, equipment, and support items are preserved, packaged, handled, and transported properly. This includes environmental considerations, equipment preservation requirements for short- and long-term storage, and transportability.

PECULIAR SUPPORT EQUIPMENT (PSE): An equipment item applicable to one system, subsystem or item of equipment. An equipment item that is being introduced into the Air Force inventory for the first time; or a CSE item reconfigured for a specific function or purpose.

PERSONNEL: The human aptitudes, skills, and knowledge, experience levels, and abilities required to operate, maintain, and support the system at the time it is fielded.

PRODUCT DATA ACQUISITION (PDAQ): A central USAF web site that hosts information about product data acquisition managed by AF/A4. It can be accessed at: https://www.my.af.mil/gcss-af/USAF/ep/browse.do?programId=tA4057E1F2A54D0C3012A8F8877C80CA5&channelPageId=s2D8EB9D629AAD6C8012A3858765B1825

PRODUCT SUPPORT ELEMENTS: A traditional group of items that taken together constitute Integrated Logistics Support. These include: Sustaining/Systems Engineering; Maintenance Planning and Management; Manpower and Personnel; Supply Support; Support Equipment/Automatic Test Systems; Technical Data Management/Technical Orders; Training; Computer Resources; Facilities; Packaging, Handling, Storage, and Transportation (PHST); Product Support Management and Design Interface.

PRODUCT SUPPORT MANAGER: The PSM is an individual with responsibility to lead the development, implementation, and top-level integration and management of all sources of support to meet Warfighter sustainment and readiness requirements. Additional guidance for PSM implementation can be found in the AFGM and at the Defense Acquisition University PSM web site: https://acc.dau.mil/psm.

PUBLIC PRIVATE PARTNERSHIP: A government service or private business venture which is funded and operated through a partnership of government and one or more private sector companies.

PRODUCT SUPPORT ELEMENT: Department of Defense recognizes 12 product support elements as a foundation for logistics planning and operations. These 12 elements are:

PRODUCT SUPPORT INTEGRATOR: The single point responsible for integrating the activities of the product support providers. Normally, this is a government function.

SUPPORT EQUIPMENT: All equipment (mobile or fixed) required to support the Operation and Maintenance (O&M) of a materiel system. This includes associated multi-use support items, ground-handling and maintenance equipment, tools, meteorology and calibration equipment, and manual/Automatic Test Equipment (ATE). It includes the acquisition of Product Support for the support equipment itself.

SUPPLY SUPPORT: The process conducted to determine, acquire, catalog, receive, store, transfer, issue, and dispose of secondary items necessary for the support of end items and support items. This includes provisioning for initial support as well as replenishment supply support, and the acquisition of logistics support for pre-operational and test equipment.

SURVIVABILITY: The characteristics of a system that reduce risk of fratricide, detection, and the probability of being attacked; and that enable the crew to withstand man-made and natural hostile environments without aborting the mission or suffering acute and/or chronic illness, disability, or death

TECHNICAL DATA: Information, regardless of the form or method of the recording, of a scientific or technical nature, including computer software documentation. It includes information required for the design, development, production, manufacture, assembly, operation, training, testing, repair, maintenance, or modification of defense articles. Relative to software it includes information on system functional design, logic flow, algorithms, application programs, operating systems, and support software for design, implementation, test operation, diagnosis, and repair. It does not include computer software or data incidental to contract administration or general scientific, mathematical, or engineering principles commonly taught in schools or information in the public domain.

TECHNICAL DATA – PRODUCT DATA: All data created as a consequence of defining (requirements), designing, testing, producing, packaging, storing, distributing, operating, maintaining, modifying and disposing of a product.

TECHNICAL DATA PACKAGE: A technical data package (TDP) typically consists of 2D drawings, 3D models, specifications, associated lists, software documentation, interface control documents, and engineering product structure

TEST, MEASUREMENT, and DIAGNOSTIC EQUIPMENT (TMDE): Devices used to maintain, evaluate, measure, calibrate, test, inspect, diagnose, or otherwise examine materials, supplies, equipment, and systems to identify or isolate actual or potential malfunction, or decide if they meet operational specifications established in technical documents. ANSI/NCSL Z540-1-1994 and ISO 17025 refer to this equipment as "measuring and test equipment."

TRAINING: The level of learning required to adequately perform the responsibilities designated to the function and accomplish the mission assigned to the system.

TRAINING and TRAINING SUPPORT: The processes, procedures, techniques, training devices, and equipment used to train civilian and active duty and reserve military personnel to operate and support a materiel system. This includes individual and crew training; new equipment training; initial, formal, and On-The-Job (OJT) training; and Logistics Support (LS) planning for training equipment and training device acquisitions and installations.

APPENDIX D – REFERENCES / LINKS

Term	Regulation Reference (As Applicable)	Web Location
2009 DoD ATS Selection Process Guide		http://www.acq.osd.mil/ats/
Abolishment of the Joint Depot Maintenance Activities Group (JDMAG) 24 March 2012		https://acc.dau.mil/CommunityBrowser.aspx?id=459971&lang=en-US
AcqNotes – A Simple Source of Acquisition Knowledge for Aerospace		http://www.acqnotes.com/Default.html
Acquisition Decision Memorandum (ADM)		https://acc.dau.mil/CommunityBrowser.aspx?id=246974
Acquisition Program Baseline (APB)		http://www.acqnotes.com/Acquisitions/Acquisition%20Program%20Baseline.html
Acquisition Strategy Panel (ASP) Template		https://www.my.af.mil/gcss-af/USAF/ep/browse.do?programId=t6925EC2D4C750FB5E044080020E329A9&channelPageId=s6925EC13430A0FB5E044080020E329A9
Acquisition Strategy Template		https://acc.dau.mil/CommunityBrowser.aspx?id=37295&lang=en-US
Acquisition Streamlining and Standardization Information System Tool (ASSIST) Quick Search (Secure web site requiring registration)		http://quicksearch.dla.mil/
Advanced Technology Demonstration Technology Transition Planning	AFSPC 61-102	http://static.e-publishing.af.mil/production/1/afmc/publication/afmci61-102/afmci61-102.pdf
Aerospace Vehicle Programming, Assignment, Distribution, Accounting, and Termination	AFI 16-402	http://static.e-publishing.af.mil/production/1/af_a8/publication/afi16-402/afi16-402.pdf
AF Form 332	AF Form 332	http://static.e-publishing.af.mil/production/1/af_a4_7/form/af332/af332.xfdl
AF Systems Life cycle Integrity Management (SLIM) Guide		www.acq.osd.mil/log/mpp/cbm+/Briefings/OSD_CBM_**SLIM**_brief.ppt
AF Technical Order System Source, Maintenance, and Recoverability Coding of Air Force Weapons, Systems, and Equipment	TO 00-25-195	http://www.tinker.af.mil/shared/media/document/AFD-121030-024.pdf
Affordable System Operational Effectiveness		https://acc.dau.mil/CommunityBrowser.aspx?id=526297
AFMC Guide to the Defense Depot Maintenance Council Cost Comparability Handbook		http://www.acq.osd.mil/log/mpp/general_policy/cchb.pdf
AFMC Packaging and Materials Handling Policies and Procedures	AFMCI 24-201	http://static.e-publishing.af.mil/production/1/afmc/publication/afmci24-201/afmci24-201.pdf

Term	Regulation Reference *(As Applicable)*	Web Location
AFMCP 63-104	AFMCP 63-104	https://www.fas.org/spp/military/docops/smc/ipdsmc.htm
AFMC PK Mandatory Procedures 5347.05, Transportation, Packaging Instructions and Data		https://cs1.eis.af.mil/sites/afcc/afmc_pk_mp_ig/MP/afmcmp5347.docx
AFPEO CM CoP		https://www.my.af.mil/gcss-af/USAF/ep/globalTab.do?channelPageId=s6925EC133D040FB5E044080020E329A9
Air Force Equipment Management System		https://www.my.af.mil/gcss-af/USAF/ep/browse.do?programId=t6925EC2B16F00FB5E044080020E329A9&channelPageId=s6925EC1350520FB5E044080020E329A9
Air Force Federal Acquisition Regulation Supplement (AFFARS) 5315.305(c) (Proposal Evaluation Procedures)		http://farsite.hill.af.mil/archive/affars/2008-0128/5315.htm#P99_4520
Air Force Federal Acquisition Regulation Supplement (AFFARS) Mandatory Procedures 5315.3 (Source Selection Responsibilities and Procedures)		http://farsite.hill.af.mil/archive/affars/2008-0128/5315.htm#P59_1824
Air Force Metrology and Calibration (AFMETCAL) Management	AFI 21-113	http://www.e-publishing.af.mil/?txtSearchWord=afi21-113&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Air Force Metrology and Calibration Program	TO 00-20-14	http://www.wpafb.af.mil/shared/media/document/AFD-120724-063.pdf
Air Force Packaging Technology and Engineering Facility		http://www.wpafb.af.mil/units/afptef/index.asp
Air Force Provisioning Instruction	AFMCI 23-101	http://www.e-publishing.af.mil/?txtSearchWord=afmci23-101&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Air Force Spares Requirements Review Board	AFI 23-120	http://static.e-publishing.af.mil/production/1/af_a4_7/publication/afi23-120/afi23-120.pdf
Air Force Standard Analysis Toolkit (AFSAT)	AFI 16-1003	http://www.e-publishing.af.mil/?txtSearchWord=afi16-1003&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Air Force Strategic Energy and Infrastructure Plan		http://www.jble.af.mil/shared/media/document/afd-090804-027.pdf

Term	Regulation Reference (As Applicable)	Web Location
Air Installation Compatible Use Zone Program	AFI 32-7063	http://www.e-publishing.af.mil/?txtSearchWord=AFI32-7063&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs&btnG.x=18&btnG.y=9
Aircraft and Equipment Maintenance Management	AFI 21-101	http://www.e-publishing.af.mil/?txtSearchWord=AFI21-101&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Aircraft Information Program	AFI 63-133 (replaced AFI 63-1401)	https://dap.dau.mil/policy/Lists/Policy%20Documents/DispForm.aspx?ID=3397
Aircraft Structural Integrity Program (ASIP)	MIL-STD-1530C	http://quicksearch.dla.mil/basic_profile.cfm?ident_number=36952&method=basic
Aircraft Structural Integrity Program (ASIP)	AFI 63-140	http://static.e-publishing.af.mil/production/1/saf_aq/publication/afi63-140/afi63-140.pdf
Air Force Materiel Management	AFI 23-101	http://static.e-publishing.af.mil/production/1/af_a4/publication/afi23-101/afi23-101.pdf
Airworthiness Certification Criteria	MIL-HDBK 516B	http://quicksearch.dla.mil/basic_profile.cfm?ident_number=212162&method=basic
Analysis of Alternative (AoA) Study Plan		https://acc.dau.mil/CommunityBrowser.aspx?id=488336
Analysis of Alternatives (AoA) Handbook		http://www.prim.osd.mil/Documents/AoA_Handbook.pdf
Applied Technology Council	AFI61-101	http://static.e-publishing.af.mil/production/1/saf_aq/publication/afi61-101/afi61-101.pdf
ASTM D3951		https://acc.dau.mil/adl/en-US/105522/file/63543/Commercial_Packaging.pdf
Authorization and Consent - Rights in Data - General	FAR 52.227-14	http://www.acquisition.gov/far/current/html/52_227.html
Base Support And Expeditionary (BAS&E) Site Planning	AFI 10-404	http://www.e-publishing.af.mil/?txtSearchWord=afi10-404&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Basing	AFPD 10-5	http://www.e-publishing.af.mil/?txtSearchWord=afpd10-5&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Berry Amendment		http://www.acq.osd.mil/dpap/cpic/ic/berry_amendment_faq.html

Term	Regulation Reference (As Applicable)	Web Location
Best Practice	AFR 800-14	RESCINDED (No Link) -- This is a rescinded document, but reference in place as a "Best Practice"
Best Practice	AFMC 800-21	RESCINDED (No Link) -- This is a rescinded document, but reference in place as a "Best Practice"
Calibration and Measurement Requirements	MIL-STD-1839	http://quicksearch.dla.mil/basic_profile.cfm?ident_number=67317&method=basic
Calibration Measurement Requirements Summary (CMRS)	DI-QCIC 80278B	http://quicksearch.dla.mil/basic_profile.cfm?ident_number=206453&method=basic
Capabilities Based Test and Evaluation	AFI 99-103	http://www.e-publishing.af.mil/?txtSearchWord=AFI99-103&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Capabilities-Based Planning	AFI 10-601	http://static.e-publishing.af.mil/production/1/af_a3_5/publication/afi10-601/afi10-601.pdf
Capability Development Document (CDD) Review Checklist	CJCSI 3170.01I	https://acc.dau.mil/CommunityBrowser.aspx?id=155093&lang=en-US
Cataloging And Standardization	AFMCMAN 23-3	http://www.e-publishing.af.mil/?txtSearchWord=AFMCMAN23-3&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Centralized Access for Data Exchange (CAFDEx) (Requires CAFDEx site registration)		https://www.my.af.mil/cafdexprod/CAFDEXAUTHORIZATION/Login.aspx/Portal?ReturnUrl=%2fCAFDExAuthorization%2f
Centralized Access For Data Exchange (CAFDEx) Registration		http://www.cafdex.com/ITIPortal/CAFDExRegister.aspx
Centralized Access For Data Exchange (CAFDEx) System		https://aplhiis.hill.af.mil/CAFDEx/
Centralized Asset Management (CAM) Fact Sheet		https://acc.dau.mil/adl/en-US/32785/file/6242/Centralized%20Asset%20Management%20Fact%20Sheet.pdf
Certification of Systems Readiness for Dedicated Operational Test and Evaluation	AFMAN 63-119	http://www.e-publishing.af.mil/?txtSearchWord=afman63-119&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Centralized Asset Management (CAM) Procedures	AFMAN 63-143	http://static.e-publishing.af.mil/production/1/saf_aq/publication/afman63-143/afman63-143.pdf
Computer Resources Life Cycle Sustainment Plan (CRSSP)		http://www.acqnotes.com/Attachments/Integrated%20Product%20Support%20Guidebook%20Dec%202011.pdf Extracted from Integrated Product Support Element Guidebook

Term	Regulation Reference (As Applicable)	Web Location
Configuration Control Board Directive	AFMC Form 518	http://www.e-publishing.af.mil/?txtSearchWord=afmc518&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Configuration Management - Defense Acquisition Guidebook (DAG) - 4.2.3 Materiel Solution Analysis Phase		https://dag.dau.mil/
Configuration Management – Defense Acquisition Guidebook (DAG) - 5.1.7 Configuration Management		https://dag.dau.mil/
Configuration Management Guidance	MIL-HDBK-61A	http://quicksearch.dla.mil/basic_profile.cfm?ident_number=202239&method=basic
Configuration Steering Board Template Charts		https://www.my.af.mil/gcss-af/USAF/AFP40/d/s6925EC13430A0FB5E044080020E329A9/Files/editorial/CSB%20for%20Annual%20Review%20and%20Decoping.pptx
Container Design Retrieval System (CDRS)		https://acc.dau.mil/CommunityBrowser.aspx?id=32414
Contract Sustainment Support Guide (CSSG)		https://acc.dau.mil/CommunityBrowser.aspx?id=67876
Contractor Supported Weapon System Data Exchange (CSWS) Data Exchange (DE)		https://www.fbo.gov/index?s=opportunity&mode=form&id=27a48faed416c0cdbc6914f560a9e226&tab=core&_cview=1
Contracts To Perform Workloads Previously Performed By Depot-Level Activities Of The Department Of Defense: Requirement Of Competition	10 USC 2469	http://www.gpo.gov/fdsys/pkg/USCODE-2011-title10/pdf/USCODE-2011-title10-subtitleA-partIV-chap146-sec2469.pdf
Conventional Munitions Maintenance Management	AFI 21-201	http://www.e-publishing.af.mil/?txtSearchWord=AFI21-201&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Core Depot-Level Maintenance And Repair Capabilities	10 USC 2464	http://www.gpo.gov/fdsys/pkg/USCODE-2011-title10/pdf/USCODE-2011-title10-subtitleA-partIV-chap146-sec2464.pdf
Core Logistics Capability - Defense Acquisition Guidebook (DAG) - 5.2.1.3 Key Depot Maintenance Analysis Elements		https://dag.dau.mil/
Cost Analysis Requirements Description		http://www.acqnotes.com/Tasks/Cost%20Analysis%20Requirements%20Description(Cost%20Estimate).html
Cost as an Independent Variable (CAIV)		https://acc.dau.mil/CommunityBrowser.aspx?id=30380

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Critical Program Information (CPI) Protection Within the Department of Defense	DoDD 5200.39	http://www.dtic.mil/whs/directives/corres/pdf/520039p.pdf
Cyberspace Support	AFPD 33-1	http://static.e-publishing.af.mil/production/1/saf_cio_a6/publication/afpd33-1/afpd33-1.pdf
Dangerous Goods Regulations		http://www.iata.org/publications/dgr/Pages/index.aspx
Data Management		https://acc.dau.mil/dm
Data Management in Engineering		http://www.acq.osd.mil/se/docs/SE-Guide-for-SoS.pdf
Defense Acquisition Guidebook		https://dag.dau.mil/
Defense Acquisition University		www.dau.mil/
Defense and Program-Unique Specifications Format and Content	MIL-STD-961	http://quicksearch.dla.mil/basic_profile.cfm?ident_number=36063&method=basic
Defense Federal Acquisition Regulation Supplement (DFARS) and Procedures, Guidance, and Information (PGI) – Source Selection	DFARS 215.3	http://www.acq.osd.mil/dpap/dars/dfars/html/current/215_3.htm
Defense Logistics Agency Distribution		http://www.distribution.dla.mil/
Defense Transportation Regulation (DTR)	DoD 4500.9-R	http://www2.dla.mil/j-6/dlmso/elibrary/manuals/regulations.asp
Demilitarization and Disposal - Defense Acquisition Guidebook (DAG) - 4.3.18.7 Systems Engineering		https://dag.dau.mil/
Depot Source of Repair (DSOR) Planning and Activation	AFMCI 21-101	http://www.e-publishing.af.mil/?txtSearchWord=afmci21-101&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Depot Maintenance Management	AFI 21-102	http://www.e-publishing.af.mil/?txtSearchWord=afi21-102&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Depot Source of Repair (DSOR) Community Site		https://org.eis.afmc.af.mil/sites/HQAFMCA4/A4D/A4DC/DSOR-CS/DSORSORAP%20Metrics/Forms/AllItems.aspx?View=%7b84EBF0CB%2dD3BE%2d4F9C%2d9C61%2d0C61DB387807%7d
Depot Source of Repair Electronic Management (DSOR-EM) - Template B – Workload Shift		https://org.eis.afmc.af.mil/sites/HQAFMCA4/A4D/A4DC/DSOR-CS/DSORSORAP%20Metrics/Forms/AllItems.aspx?RootFolder=%2fsites%2fHQAFMCA4%2fA4D%2fA4DC%2fDSOR%2dCS%2fDSORSORAP%20Metrics%2fTemplates%2dForms%2fSORA%20Templates&FolderCTID=&View=%7b84EBF0CB%2dD3BE%2d4F9C%2d9C61%2d0C61DB387807%7d

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Depot Source of Repair Electronic Management (DSOR-EM) -Template A – New Start/Modification		https://org.eis.afmc.af.mil/sites/HQAFMCA4/A4D/A4DC/DSOR-CS/DSORSORAP%20Metrics/Forms/AllItems.aspx?RootFolder=%2fsites%2fHQAFMCA4%2fA4D%2fA4DC%2fDSOR%2dCS%2fDSORSORAP%20Metrics%2fTemplates%2dForms%2fSORA%20Templates&FolderCTID=&View=%7b84EBF0CB%2dD3BE%2d4F9C%2d9C61%2d0C61DB387807%7d
Designing and Assessing Supportability in DoD Weapon Systems: A Guide to Increased Reliability and Reduced Logistics Footprint		https://acc.dau.mil/CommunityBrowser.aspx?id=32566
Designing and Developing Maintainable Products and Systems, Volume I	MIL-HDBK-470A	http://quicksearch.dla.mil/basic_profile.cfm?ident_number=120647&method=basic
Designing for Internal Aerial Delivery in Fixed Wing Aircraft	MIL-STD-1791 Replaces MIL-HDBK-1791	http://quicksearch.dla.mil/basic_profile.cfm?ident_number=37147&method=basic
Development of Major Defense Acquisition Programs: Sustainment of System to be Replaced	10 USC 2437	http://www.gpo.gov/fdsys/pkg/USCODE-2011-title10/pdf/USCODE-2011-title10-subtitleA-partIV-chap144-sec2437.pdf
Diminishing Manufacturing Sources and Material Shortages (DMSMS)	SD-22	http://quicksearch.dla.mil/basic_profile.cfm?ident_number=275490
Diminishing Manufacturing Sources and Material Shortages (DMSMS) Program	AFMCI 23-103	http://static.e-publishing.af.mil/production/1/afmc/publication/afmci23-103/afmci23-103.pdf
Disposal of Real Property	AFI 32-9004	http://www.e-publishing.af.mil/?txtSearchWord=afi32-9004&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
DLA One Book		http://www.dla.mil/issuances/Pages/default.aspx
DoD Ammunition and Explosives Hazard Classification Procedures	AFMAN 91-201	http://static.e-publishing.af.mil/production/1/af_se/publication/afman91-201/afman91-201.pdf
DoD ATS Executive Directorate Home Page		http://www.acq.osd.mil/ats/
DoD Conditioned Based Maintenance Plus (CBM+) for Materiel Maintenance	DoDI 4151.22	http://www.dtic.mil/whs/directives/corres/pdf/415122p.pdf
DoD Conditioned Based Maintenance Plus (CBM+) Guidebook		http://www.acq.osd.mil/log/mpp/cbm+/CBM_DoD_Guidebook_May08.pdf

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DoD Demilitarization (DEMIL) and Trade Security Controls Programs		https://acc.dau.mil/CommunityBrowser.aspx?id=32434
DoD Demilitarization (DEMIL) Program	DoDI 4160.28	http://www.dtic.mil/whs/directives/corres/ins1.html
DoD Demilitarization (DEMIL): Demilitarization Coding	DoD 4160.28-M VOL 2	http://www.dtic.mil/whs/directives/corres/pub1.html
DoD Demilitarization (DEMIL): Procedural Guidance	DoD 4160.28-M VOL 3	http://www.dtic.mil/whs/directives/corres/pub1.html
DoD Demilitarization (DEMIL): Program Administration	DoD 4160.28-M VOL 1	http://www.dtic.mil/whs/directives/corres/pub1.html
DoD Education and Training Opportunities HSI		http://www.acq.osd.mil/se/initiatives/init_hsi.html
DoD Environment, Safety & Occupational Health Network & Information Exchange (DENIX)		http://www.denix.osd.mil/
DoD Environmental, Safety, & Occupational Health (ESOH) in Acquisition Planning		https://acc.dau.mil/esoh
DoD Environmental, Safety, & Occupational Health (ESOH) in Acquisition - Integrating into Systems Engineering		http://www.wpafb.af.mil/shared/media/document/AFD-080402-030.pdf
DoD Guide for Achieving Reliability, Availability, and Maintainability (RAM)		https://acc.dau.mil/CommunityBrowser.aspx?id=14210 3
DoD Handbook Product Support Analysis	MIL-HDBK-502A Supersedes MIL-HDBK-502	http://quicksearch.dla.mil/basic_profile.cfm?ident_number=201462&method=basic
DoD Logistics Assessment (LA) Guidebook	July 2011	http://www.acq.osd.mil/log/mr/library/Logistics_Assessment_Guidebook_July2011.pdf
DoD Modeling and Simulation Master Plan		http://www.acq.osd.mil/se/docs/AMSMP_041706_FINAL2.pdf
DoD Operating and Support Cost Estimating Guide (dated Feb 2016)		
DoD Product Support Business Case Analysis (BCA) Guidebook		https://acc.dau.mil/adl/en-US/440506/file/56912/BCA%20Guidebook%20April%202011.pdf
DoD Product Support Manager (PSM) Guidebook		https://acc.dau.mil/adl/en-US/440507/file/56913/PSM%20Guidebook%20April%202011.pdf
DoD Reliability, Availability, Maintainability and Cost Rationale Report (RAM-C) Manual	DoD-RAM-C-Manual 2009-06-01	https://acc.dau.mil/adl/en-US/298606/file/45241/DoD-RAM-C-Manual%202009-06-01.pdf

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DoD Standard Practice System Safety	MIL-STD-882E	http://quicksearch.dla.mil/basic_profile.cfm?ident_number=36027&method=basic
DoD Standard Practice Technical Data Packages	MIL-STD-31000	https://acc.dau.mil/adl/en-US/642487/file/69586/MIL-STD-31000A%20released%20on%20ASSIST%203%2013%202013.pdf
DoD Supply Chain Materiel Management	DoD 4140.1-M	http://www.dtic.mil/whs/directives/corres/pdf/414001m/414001m_vol01.pdf
DoD Technology Readiness Assessment (TRA) Guidance		http://www.acq.osd.mil/ddre/publications/docs/TRA2011.pdf
DoD Template for Application of Total Life Cycle Systems Management (TLCSM) and Performance Based Logistics (PBL) In the Weapon System Life Cycle		http://www.acq.osd.mil/log/sci/exec_info/tlcsm_guide_temp.pdf
DoDD Modeling and Simulation Management	DoDD 5000.59	http://www.dtic.mil/whs/directives/corres/pdf/500059p.pdf
Early Systems Engineering Guide		https://www.my.af.mil/gcss-af/USAF/ep/contentView.do?contentId=c6925EC1AD1F40FB5E044080020E329A9&channelPageId=s6925EC1355180FB5E044080020E329A9
Electronic Code of Federal Regulations	Titles 29, 40, 49	http://www.ecfr.gov/cgi-bin/ECFR?page=browse
Electronic Code of Federal Regulations - Source Selection	Part 3415.3	http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=1&SID=aeb588f91924af17c6eeb9ff54ef2486&ty=HTML&h=L&n=48y7.0.3.18.11&r=PART
Electronic Code of Federal Regulation-Subpart 3415.3 Source Selection		http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=1&SID=aeb588f91924af17c6eeb9ff54ef2486&ty=HTML&h=L&n=48y7.0.3.18.11&r=PART
Enhanced Technical Information Management System (ETIMS)		https://www.my.af.mil/etims/ETIMS/index.jsp
Ensuring Safety Regarding Insensitive Munitions	10 USC 2389 Subtitle A Part IV Chapter 141	http://www.gpo.gov/fdsys/search/pagedetails.action?na=&se=&sm=&flr=&ercode=&dateBrowse=&govAuthBrowse=&collection=&historical=false&st=10+USC+2389+Subtitle+A+Part+IV+Chapter+141++&=10+usc+2389&psh=&sbh=&tfh=&originalSearch=&sb=re&sb=re&ps=10&ps=10&granuleId=USCODE-2011-title10-subtitleA-partIV-chap141-sec2389&packageId=USCODE-2011-title10
Environment, Safety, and Occupational Health	DoDD 4715.1E	https://acc.dau.mil/CommunityBrowser.aspx?id=638356&lang=en-US
Environmental Protection	32 CFR 989.3	http://cfr.vlex.com/vid/989-3-responsibilities-19753817

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Explosive Ordnance Disposal (EOD) Program	AFI 32-3001	http://www.e-publishing.af.mil/?txtSearchWord=AFI32-3001&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
FAR & DFAR clauses for Data Rights **Subpart 27.4—Rights in Data and Copyrights** **DFARS 252.227** **Subpart 227.71 – Rights in Technical Data**		http://www.acc.com/chapters/wmacca/upload/Slides-GovData.pdf http://www.acquisition.gov/far/current/html/Subpart%2027_4.html http://www.acq.osd.mil/dpap/dars/dfarspgi/current/index.html http://www.dtic.mil/dtic/pdf/customer/STINFOdata/dfars_22771.pdf
FEDLOG Information Center		http://www.dlis.dla.mil/FedLog/default.asp
Fuels Logistics Planning	AFPAM 23-221	http://www.e-publishing.af.mil/?txtSearchWord=afpam23-221&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Fuels Management	AFI 23-201	http://www.e-publishing.af.mil/?txtSearchWord=AFI23-201&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Functions and Responsibilities of the Equipment Specialist during Provisioning	AFMCI 23-104	http://www.e-publishing.af.mil/?txtSearchWord=23-104&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
FY Military Construction Project Data	DD Form 1391	http://www.dtic.mil/whs/directives/infomgt/forms/forminfo/forminfopage2125.html
General Information, Regulations and Definitions	49 CFR Part 171	http://www.access.gpo.gov/nara/cfr/waisidx_04/49cfr171_04.html
General Intelligence Rules	AFI 14-202V3	http://www.e-publishing.af.mil/?txtSearchWord=afi14-202v3&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Geospatial Information and Services	AFI 14-205	http://www.e-publishing.af.mil/?txtSearchWord=afi14-205&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Government Industry Data Exchange Program (GIDEP)		http://www.gidep.org/
Integrated Life Cycle Management	AFPAM 63-128	http://www.e-publishing.af.mil/?txtSearchWord=afpam63-128&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs

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Hazard Assessment Tests For Non-Nuclear Munitions	MIL-STD-2105C	http://quicksearch.dla.mil/basic_profile.cfm?ident_number=72079&method=basic
Hazardous Material Management Program Plan	DI-MGMT-81399A	https://acc.dau.mil/CommunityBrowser.aspx?id=234125
Hazardous Material Management Program Report	DI-MISC-81397B	http://quicksearch.dla.mil/quicksearch_query.cfm?method=basic
Hazardous Materials Management	AFI 32-7086	http://www.e-publishing.af.mil/?txtSearchWord=afi32-7086&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs&btnG.x=32&btnG.y=13
HAZMAT Plan & Report DID - DI-MGMT-81398B		http://quicksearch.dla.mil/basic_profile.cfm?ident_number=206423&method=basic
Human Engineering Program Processes & Procedures	MIL-HDBK-46855A	http://quicksearch.dla.mil/basic_profile.cfm?ident_number=201925&method=basic
Human Systems Integration (HSI) Guide for Contracts		http://www.wpafb.af.mil/shared/media/document/AFD-090121-054.pdf
Human Systems Integration (HSI) Handbook		http://www.wpafb.af.mil/shared/media/document/AFD-090121-054.pdf
Human Systems Integration (HSI) Requirements Pocket Guide	AFD-090121-055	http://www.wpafb.af.mil/shared/media/document/AFD-090121-055.pdf
Human Systems Integration HSI Acquisition Phase Guide	AFD-100122-034	http://www.wpafb.af.mil/shared/media/document/AFD-100122-034.pdf
Implementing Military Flight Operations Quality Assurance (MFOQA)	AFI 90-1301	http://www.e-publishing.af.mil/?txtSearchWord=afi90-1301&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Implementing Operational Safety Suitability and Effectiveness (OSS&E) and Life Cycle Systems Engineering (LCSE)	AFMCI 63-1201	http://www.e-publishing.af.mil/?txtSearchWord=AFMCI63-1201&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Improving Air and Space Equipment Reliability & Maintainability Chapter 2	AFI 21-118	http://www.e-publishing.af.mil/?txtSearchWord=afi21-118&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Independent Cost Estimates; Operational Manpower Requirements	10 USC 2434	http://www.gpo.gov/fdsys/pkg/USCODE-2011-title10/pdf/USCODE-2011-title10-subtitleA-partIV-chap144-sec2434.pdf
Industrial Capability	DoDI 5000.60	http://www.dtic.mil/whs/directives/corres/pdf/500060p.pdf
Security Enterprise Governance	AFPD 16-14	http://www.fas.org/irp/doddir/usaf/afpd16-14.pdf

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Information Support Plan (ISP) Summary		https://dap.dau.mil/acquipedia/Pages/ArticleDetails.aspx?aid=5fe9f084-b0e2-4e5a-a6f3-87c1330ed71a
Initial Capabilities Document	Ref JCIDS	https://acc.dau.mil/jcids
Initial Capabilities Document (ICD) Writer's Guide / Review Checklist		https://acc.dau.mil/CommunityBrowser.aspx?id=551354
Initial Capabilities Document (ICD) Summary		https://dap.dau.mil/acquipedia/Pages/ArticleDetails.aspx?aid=bd510bfa-c1e9-4f51-bf61-f5f6305c1147
Initial Requirements Determination	AFMCI 23-106	http://static.e-publishing.af.mil/production/1/afmc/publication/afmci23-106/afmci23-106.pdf
Integrated Defense Acquisition Technology and Logistics Life Cycle Management Framework Chart (aka "Wall Chart")		https://ilc.dau.mil/
Integrated Life Cycle Management	AFPD 63-1	http://www.e-publishing.af.mil/?txtSearchWord=afpd63-1&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Integrated Life Cycle Management	AFI 63-101/20-101 7Mar2013	http://www.e-publishing.af.mil/?txtSearchWord=AFI63-101&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Integrated Master Plan and Schedule Guide		http://www.acq.osd.mil/se/docs/IMP_IMS_Guide_v9.pdf
Integrated Product Support (IPS) Element Guidebook-Support Equipment		https://acc.dau.mil/CommunityBrowser.aspx?id=492167
Intelligence Production and Applications	AFI 14-201	http://www.e-publishing.af.mil/?txtSearchWord=afi14-201&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Intelligence Support to the Acquisition Life Cycle	AFI 14-111	http://www.e-publishing.af.mil/?txtSearchWord=afi14-111&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Interoperability		http://static.e-publishing.af.mil/production/1/saf_aq/publication/afi63-101/afi63-101_20-101.pdf
Interoperability and Modular Open Systems Approach (MOSA).		https://acc.dau.mil/CommunityBrowser.aspx?id=489755#5.3.1
Item Unique Identification (IUID) Standards for Tangible Personal Property	DoDI 8320.04	http://www.dtic.mil/whs/directives/corres/pdf/832004p.pdf

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Joint ATS MOA (July 2004)		http://www.acq.osd.mil/ats/
Joint Capabilities Integration and Development System (JCIDS)	CJCSI 3170.01H	https://acc.dau.mil/CommunityBrowser.aspx?id=164563
Joint Lessons Learned Information System (JLLIS) (Secure web site requiring registration)		https://www.jllis.mil/usaf/
Joint Logistics Commanders (JLC) Form 44 – Depot Maintenance Planning Information		https://acc.dau.mil/adl/en-US/46407/file/13758/DSOR%20Acquisition%20Guide%20DTD%20Oct%2005.pdf https://learn.dau.mil/CourseWare/800840_4/media/DMISA%20print%202_07.pdf
Joint Logistics Commanders (JLC) Form 27 – DMI Candidate Information		https://acc.dau.mil/adl/en-US/46407/file/13758/DSOR%20Acquisition%20Guide%20DTD%20Oct%2005.pdf https://learn.dau.mil/CourseWare/800840_4/media/DMISA%20print%202_07.pdf
Joint Logistics Commanders (JLC) Form 28 – Depot Reparable Item List		https://acc.dau.mil/adl/en-US/46407/file/13758/DSOR%20Acquisition%20Guide%20DTD%20Oct%2005.pdf https://learn.dau.mil/CourseWare/800840_4/media/DMISA%20print%202_07.pdf
Joint Military Intelligence Requirements Certification	CJCSI 3312.01B CJCSI 3312.01A is CANX	http://www.dtic.mil/cjcs_directives/cdata/unlimit/3312_01.pdf
Joint Operations Concepts Development Process (JOpsC-DP)	CJCSI 3010.02B	http://www.dtic.mil/futurejointwarfare/concepts/cjcsi3010_02b.pdf Go to A-1 for link to all JOpsC concepts
Life Cycle Assessments		https://acc.dau.mil/CommunityBrowser.aspx?id=51892
Life Cycle Cost (LCC)		https://acc.dau.mil/CommunityBrowser.aspx?id=48831
Life Cycle Cost Estimate (LCCE)		http://www.acqnotes.com/Career%20Fields/Life%20Cycle%20Cost%20Estimate.html
Life Cycle Sustainment Plan (LCSP)		https://acc.dau.mil/CommunityBrowser.aspx?id=32631&lang=en-US
Limitations On The Performance Of Depot-Level Maintenance Of Materiel	10 USC 2466	http://www.gpo.gov/fdsys/pkg/USCODE-2011-title10/pdf/USCODE-2011-title10-subtitleA-partIV-chap146-sec2466.pdf
Logistics Assessment (LA) Guidebook (DoD)		http://www.acq.osd.mil/log/mr/library/Logistics_Assessment_Guidebook_July2011.pdf
Enterprise Logistics Flight Plan (ELFP)		

Term	Regulation Reference (As Applicable)	Web Location
Logistics Footprint Minimization - Defense Acquisition Guidebook (DAG) 5.3 - Supportability Design Considerations		https://dag.dau.mil/
Logistics Product Data	GEIA-STD-0007B	http://archive.logisticsengineers.org/mar10pres/geia.pdf
Logistics Requirements Determination Process (LRDP) Guide		https://aplhiis.hill.af.mil/Help_CAFDEX/Docs/Logistics_Requirements_Determination_Process.pdf
Maintenance Data Collection Codes and Calibration Measurement Summaries	TO 33K1-100	http://www.robins.af.mil/shared/media/document/AFD-081202-021.pdf
Maintenance of Military Materiel	DoDD 4151.18	http://www.acq.osd.mil/log/mpp/cbm+/DoDD%204151.18%20with%20CBM%20Plus%20highlights.pdf
Maintenance Planning and Execution System	AFMCMAN 20-1	http://static.e-publishing.af.mil/production/1/afmc/publication/afmcman20-1/afmcman20-1.pdf
Major Defense Acquisition Programs: certification required before Milestone A A1 approval	10 USC 2366A	http://www.gpo.gov/fdsys/pkg/USCODE-2011-title10/pdf/USCODE-2011-title10-subtitleA-partIV-chap139-sec2366a.pdf
Major Systems And Munitions Programs: Survivability Testing And Lethality Testing Required Before Full Scale Production	10 USC 2366	http://www.gpo.gov/fdsys/pkg/USCODE-2011-title10/pdf/USCODE-2011-title10-subtitleA-partIV-chap139-sec2366.pdf
Management of Air Force Training Systems	AFI 36-2251	http://www.e-publishing.af.mil/?txtSearchWord=afi36-2251&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Management Of Manpower Requirements And Authorizations	AFI 38-201	http://www.e-publishing.af.mil/?txtSearchWord=afi38-201&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Manpower Estimate Report (MER)		https://acc.dau.mil/CommunityBrowser.aspx?id=655909
Market Analysis		https://acc.dau.mil/CommunityBrowser.aspx?id=25266
Materiel Management	AFPD 23-1 replaces AFPD 23-5	http://www.e-publishing.af.mil/?txtSearchWord=afpd23-1&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Mechanical Equipment and Subsystems Integrity Program (MECSIP)	MIL-STD-1798	http://quicksearch.dla.mil/basic_profile.cfm?ident_number=71161&method=basic
Milestone A Documentation		https://dap.dau.mil/aphome/das/Pages/Default.aspx
Military Packaging	MIL-STD-2073-E1	http://quicksearch.dla.mil/basic_profile.cfm?ident_number=37232

Term	Regulation Reference (As Applicable)	Web Location
Modeling & Simulation	AFPD 16-10	http://static.e-publishing.af.mil/production/1/af_a3_5/publication/afpd16-10/afpd16-10.pdf
Modeling and Simulation	AFPD 16-10	http://www.e-publishing.af.mil/index.asp?txtSearchWord=afpd16-10&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Modeling and Simulation (M&S) Support to Acquisition	AFI 16-1002 *Superseded by AFI 63-101/20-101*	http://www.e-publishing.af.mil/?txtSearchWord=63-101&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Modification Management	AFI 63-131	http://www.e-publishing.af.mil/?txtSearchWord=afi63-131&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Modification Proposal	AF 1067	http://static.e-publishing.af.mil/production/1/saf_aq/form/af1067/af1067.xfdl
National Environmental Policy Act	42 USC 4321	http://www.faa.gov/about/office_org/headquarters_offices/ast/licenses_permits/htm/nepa/
National Environmental Policy Act	Title 42, Chapter 55 Sec 4321	http://www.faa.gov/about/office_org/headquarters_offices/ast/licenses_permits/htm/nepa/
National Environmental Policy Act 42 USC Sec. 4321		http://www.faa.gov/about/office_org/headquarters_offices/ast/licenses_permits/htm/nepa/
Contract Sustainment Support Guide (CSSG) – Next Generation		https://acc.dau.mil/adl/en-US/678776/file/74669/Contract%20Sustainment%20Support%20Guide%202013%20v7.pdf
Nonnuclear Munitions Safety Board	AFI 91-205	http://www.e-publishing.af.mil/?txtSearchWord=afi91-205&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Operation of the Defense Acquisition System	DoDI 5000.02	http://www.dtic.mil/whs/directives/corres/pdf/500002_interim.pdf
Operation of the Joint Capabilities Integration and Development System	CJCSI 3170.01I	https://acc.dau.mil/CommunityBrowser.aspx?id=155093&lang=en-US
Operational Capability Requirements Development	AFI 10-601	http://www.e-publishing.af.mil/?txtSearchWord=afi10-601&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Organic Modification Checklist (from AF Sustainment Center)		https://cs3.eis.af.mil/sites/MC-LG-01-82/Organic%20Modification%20Checklist/Forms/AllItems.aspx

Term	Regulation Reference (As Applicable)	Web Location
Packaging of Hazardous Materials	AFI 24-210_IP	http://static.e-publishing.af.mil/production/1/af_a4_7/publication/afi24-210_ip/afi24-210_ip.pdf
Performance Based Logistics		https://dap.dau.mil/acquipedia/Pages/ArticleDetails.aspx?aid=68d85f91-3fbf-4182-b55a-f2dbc5a33943
Performance Based Logistics: A Program Manager's Product Support Guide March 2005		https://acc.dau.mil/CommunityBrowser.aspx?id=32536
Planning and Programming Appropriated Funded Maintenance , Repair and Construction Projects	AFI 32-1032	http://www.e-publishing.af.mil/?txtSearchWord=AFI32-1032&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Planning and Programming Military Construction (MILCON) Projects	AFI 32-1021	http://www.e-publishing.af.mil/?txtSearchWord=AFI32-1021&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs&btnG.x=25&btnG.y=10
Planning, Programming, Budgeting and Execution (PPBE) Process		http://www.acqnotes.com/Acquisitions/PPBE%20Overview.html
Pre-Materiel Development Decision (MDD) Analysis Handbook		http://www.ndia.org/Divisions/Divisions/SystemsEngineering/Documents/Committees/Mission%20Analysis%20Committee/2012%20Updates/Pre%20MDD%20Analysis%20Handbook%20-%20version%201%200%20-%20July%202010.pdf
Preparing Hazardous Materials for Military Air Shipments	AFMAN 24-204_IP	http://static.e-publishing.af.mil/production/1/af_a4_7/publication/afman24-204_ip/afman24-204_ip.pdf
Preservation & Storage of Tooling for Major Defense Acquisition Programs		https://acc.dau.mil/CommunityBrowser.aspx?id=310355
Procedures For Performing A Failure Mode, Effects And Criticality Analysis (No S/S Document)	MIL-STD-1629 Though cancelled still used	http://quicksearch.dla.mil/basic_profile.cfm?ident_number=37027&method=basic https://dap.dau.mil/acquipedia/Pages/ArticleDetails.aspx?aid=77ced923-7933-4c68-9d32-27e6c9eb578a
Product Data Acquisition (PDAQ) Guidance		https://www.my.af.mil/gcss-af/USAF/site/ACQUISITION/ACE/PLM
Product Data Specification Drawing		https://www.jedmics.net/ Joint Engineering Data Management Information and Control System (JEDMICS)
Product Quality Deficiency Report Program	AFI 21-115	http://static.e-publishing.af.mil/production/1/af_a4_7/publication/afi21-115_ip/afi21-115_ip.pdf

Term	Regulation Reference (As Applicable)	Web Location
Product Support – Defense Acquisition Guidebook (DAG) - 5.1.1.1		https://dag.dau.mil/
Product Support Plan for Information Technology Guide (SWGDO32)		http://www.gunter.af.mil/shared/media/document/AFD-140211-059.pdf
Product Support Tool Kit (PSTK) SharePoint		https://cs3.eis.af.mil/sites/MC-LG-01-82/default.aspx
Program Action Directives (PAD) and Programming Plans (PPLAN)	AFI 10-501	http://static.e-publishing.af.mil/production/1/af_a3_5/publication/afi10-501/afi10-501.pdf
Program Management Agreement (PMA)/Services Management Agreement (SMA)		https://acc.dau.mil/CommunityBrowser.aspx?id=655957
Program Objective Memorandum (POM) Summary		https://dap.dau.mil/acquipedia/Pages/ArticleDetails.aspx?aid=79420a26-7a89-4e94-aad2-6d5d61bb7511
Program Protection Planning for Life Cycle Management	AFPAM 63-113	http://static.e-publishing.af.mil/production/1/saf_aq/publication/afpam63-113/afpam63-113.pdf
Programming USAF Manpower	AFI 38-204	http://www.e-publishing.af.mil/?txtSearchWord=afi38-204&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Propulsion System Integrity Program (PSIP)	MIL-STD-3024	http://quicksearch.dla.mil/basic_profile.cfm?ident_number=276036&method=basic
Public-Private Partnerships for Depot-Level Maintenance	DoDI 4151.21	http://www.dtic.mil/whs/directives/corres/pdf/415121p.pdf
Range Commanders Council Flight Termination Commonality Standard	RC-319-10	http://www.wsmr.army.mil/RCCsite/Documents/319-10%20Flight%20Termination%20Systems%20Commonality%20Standard%20(Public%20Release)/319-10%20Flight%20Termination%20Systems%20Commonality%20Standard%20(Public%20Release).pdf
Reclamation of Air Force Property	AFMCI 23-111	http://www.e-publishing.af.mil/?txtSearchWord=AFMCI23-111&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Reliability Centered Maintenance (RCM) Programs	AFMCI 21-103	http://www.e-publishing.af.mil/?txtSearchWord=afmci21-103&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Replaced System Sustainment Plan		https://acc.dau.mil/CommunityBrowser.aspx?id=655960
Request For Environmental Impact Analysis	AF IMT 813	http://www.e-publishing.af.mil/?txtSearchWord=af813&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs

Term	Regulation Reference (*As Applicable*)	Web Location
Request for Proposal (RFP) Information		https://dap.dau.mil/acquipedia/Pages/ArticleDetails.aspx?aid=c9ff043b-a90e-4213-9e9a-6a15a1bc03e9
Requirements for Secondary Items	AFMCMAN 23-1	http://static.e-publishing.af.mil/production/1/afmc/publication/afmcman23-1/afmcman23-1.pdf
Rights in Technical Data	10 USC 2320	http://www.gpo.gov/fdsys/pkg/USCODE-2011-title10/pdf/USCODE-2011-title10-subtitleA-partIV-chap137-sec2320.pdf
Risk Management Plan Template and Guide		https://acc.dau.mil/CommunityBrowser.aspx?id=180602
SAF Memorandum on coordination of Requirements Documents for release of RFP 27 Jan 2010		https://dap.dau.mil/policy/Documents/Policy/20100127%20GM%20%20Coordination%20of%20Requirements%20Document%20Used%20in%20Conjunction%20with%20RFP%20with%20Requiring%20Lead%20Commands.pdf
Security Assistance Management Manual (SAMM)	DSCA 5105.38	http://www.samm.dsca.mil/
Site Survey Sample		https://afkm.wpafb.af.mil/ASPs/docman/Process/ProcessDOCFunctions.asp?DocID=3880826&Function=ViewDocument&FolderID=MC-LG-01-82-5-4-1&Filter=MC-LG-01-82
Special Packaging Instructions Retrieval & Exchange System (SPIRES)		https://acc.dau.mil/CommunityBrowser.aspx?id=436573
Standard Facility Requirements	AFI 32-1024	http://www.e-publishing.af.mil/?txtSearchWord=afi32-1024&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Strategic Basing	AFI 10-530	http://www.e-publishing.af.mil/?txtSearchWord=afi10-503&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Supply Chain Management		https://acc.dau.mil/CommunityBrowser.aspx?id=18234&lang=en-US
Support Equipment Information		https://www.my.af.mil/gcss-af/USAF/ep/contentView.do?contentId=c6925EC19127E0FB5E044080020E329A9&channelPageId=s6925EC13448F0FB5E044080020E329A9
Support Equipment Recommendation Data (SERD) Sample		https://sowgen.faa.gov/
Supportability Requirements		https://acc.dau.mil/CommunityBrowser.aspx?id=141970
System Requirements Review Procedure		https://acc.dau.mil/CommunityBrowser.aspx?id=509389

Term	Regulation Reference (As Applicable)	Web Location
Systems Engineering Fundamentals Guide		http://www.acq.osd.mil/se/pg/guidance.html
Systems Engineering Plan (SEP) Outline		http://www.acq.osd.mil/se/pg/guidance.html
Systems Engineering Plan Summary		http://www.acq.osd.mil/se/pg/guidance.html
Target Audience Description Guide		https://acc.dau.mil/ils_target_audience
Technical Data For Munitions (TDM)	DI-SAFT-80182B	http://quicksearch.dla.mil/basic_profile.cfm?ident_number=205758&method=basic
Technical Order Fact Sheet		http://www.hill.af.mil/library/factsheets/factsheet_print.asp?fsID=14327&page=1
Technical Orders		http://www.tinker.af.mil/technicalorders/
Technology and Industrial Base Plans	10 USC 2440	http://www.gpo.gov/fdsys/pkg/USCODE-2011-title10/pdf/USCODE-2011-title10-subtitleA-partIV-chap144-sec2440.pdf
Technology Program Management Model v2		https://acc.dau.mil/CommunityBrowser.aspx?id=148163
Test and Evaluation Management Guide		http://www.dau.mil/publications/publicationsDocs/Test%20and%20Evaluation%20Management%20Guide,%20December%202012,%206th%20Edition%20-v1.pdf
Test and Evaluation Master Plan		https://acc.dau.mil/CommunityBrowser.aspx?id=504127&lang=en-US
The Defense Acquisition System	DoDD 5000.01	http://www.dtic.mil/whs/directives/corres/pdf/500001p.pdf
The Environmental Impact Analysis Process	AFI 32-7061	http://www.e-publishing.af.mil/?txtSearchWord=afi32-7061&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
The Seek Eagle Program	AFI 63-104	http://www.e-publishing.af.mil/?txtSearchWord=AFI63-104&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
TM 86-01 (TMCR)		https://cs3.eis.af.mil/sites/21298/default.aspx.
TRA Sample		http://www.acq.osd.mil/ddre/publications/docs/TRA2011.pdf
Transportation SharePoint (former CoP)		https://cs3.eis.af.mil/sites/OO-LG-TR-A7/default.aspx
Two Level Maintenance and Regional Repair of Air Force Weapon Systems and Equipment	AFI 21-129	http://www.e-publishing.af.mil/shared/media/epubs/AFI21-129.pdf
Under Secretary of Defense for Acquisition, technology, and Logistics (USD(AT&L))	DoDD 5134.01	http://www.dtic.mil/whs/directives/corres/pdf/513401p.pdf

Term	Regulation Reference *(As Applicable)*	Web Location
Unified Facilities Criteria and Unified Facilities Guide Specifications	MIL-STD-3007	http://quicksearch.dla.mil/basic_profile.cfm?ident_number=208701&method=basic
US Government Printing Office		http://www.gpo.gov/fdsys/search/home.action
USAF Aircraft Airworthiness Certification	AFPD 62-6	http://www.e-publishing.af.mil/?txtSearchWord=afpd62-6&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
USAF Contract Sustainment Support Guide (CSSG)		https://acc.dau.mil/CommunityBrowser.aspx?id=497538
USAF Flight Manuals Program (FMP)	AFI 11-215	http://www.e-publishing.af.mil/?txtSearchWord=11-215&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
USAF Project Managers Guide for design and construction		http://www.wbdg.org/ccb/AF/AFDG/pmguide.pdf
Validation of Proprietary Data Restrictions	10 USC 2321	http://www.gpo.gov/fdsys/pkg/USCODE-2011-title10/pdf/USCODE-2011-title10-subtitleA-partIV-chap137-sec2321.pdf
Verification, Validation and Accreditation (VV&A)	AFI 16-1001	http://www.e-publishing.af.mil/index.asp?txtSearchWord=afi16-1001&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Waste Management	AFI 32-7042	http://www.e-publishing.af.mil/?txtSearchWord=afi32-7042&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie=UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs
Weapon System Acquisition Reform Act		http://www.acq.osd.mil/se/docs/PUBLIC-LAW-111-23-22MAY2009.pdf
Weapon System Integrity Guide (WSIG)	MIL-HDBK-515	http://www.assistdocs.com/search/document_details.cfm?ident_number=212249&StartRow=1&PaginatorPageNumber=1&doc_id=MIL-HDBK-515&search_method=BASIC

APPENDIX E – CONTACT

For questions or comments about the PSTK, please contact

AFLCMC/LGI AT:
aflcmc.lgi@us.af.mil

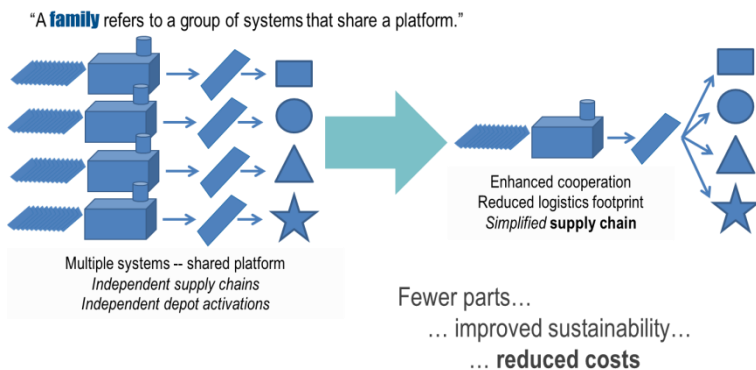# APPENDIX F – COMMONALITY THROUGHOUT PROGRAM LIFE CYCLE

GENERAL –

As with all program decisions, commonality decisions made early in the program typically have a far greater total impact over the life cycle of the program; however, opportunities exist to design for the efficient use of common parts or processes, modernize using common parts, or leverage common parts or processes throughout the entire life cycle of the program, from inception through sustainment and disposal. Although greater commonality is often associated with lower costs, research shows a subtler picture. Depending upon how it is implemented and the specific applications, commonality can also increase costs. To assess the systemic value of commonality, the program office should understand how the use of common items affects several different costs categories, including development, acquisition, sustainment, training, and personnel. The following appendix serves as a guide to maximizing the potential gains from effective use of common parts and processes.

TYPES OF COMMONALITY –

Operational needs and tradeoffs determine which type of commonality are most effective in a given situation. There is no single "best" option that will apply to all types of common systems. The following commonality types provide the four basic types of commonality and opportunities when each is often most effective:

(1) HYBRID: A hybrid approach combines multiple capabilities that are normally separated into a single system

(2) MODULAR: A modular system allows functions to be exchanged within one system

(3) FAMILY: A family refers to a group of systems that share a platform

(4) DIFFERENTIATED: A differentiated system is distinguished by its unique platform, components, and capabilities in pursuit of specialization


Appendix E – Figure 1: Family commonality example

WHEN TO LOOK FOR COMMONALITY –

While cost savings and efficiency increase opportunities exist throughout a program life cycle, the following four general categories of components identify opportunities for which it could be financially advantageous to pursue commonality:

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(1) COMPLEXITY: Complex, expensive items present opportunities for reducing costs by spreading the R&D cost over multiple systems (e.g., a new family of weapon platforms like the Future Combat System)

(2) HIGH-DEMAND: High-demand items that have similar specifications can lead to reduced costs through economies of scale, lower inventory levels, increased purchasing power, and lower order costs (e.g., certain vehicle engines, tires)

(3) TRAINING BURDEN: Items that are burdensome for operations or maintenance training should be made common to save on the training burden and personnel needs

(4) LOGISTICALLY BURDENSOME: Logistically burdensome items, such as tires, tracks, engines, and transmissions, tend to dominate bulk storage, which can be problematic given storage constraints for mobile field warehouses
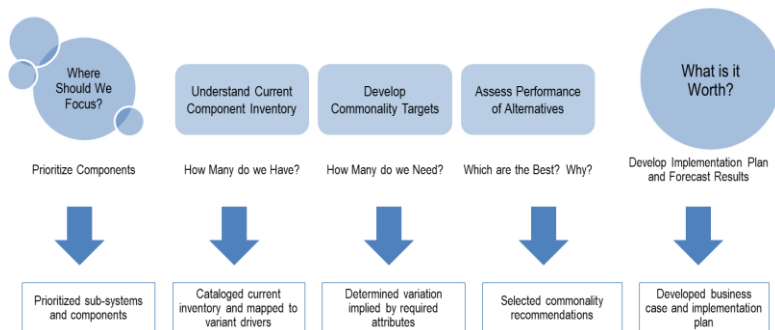
Appendix E – Figure 2: Deep dive process for implementing commonality initiatives

VALUE ENGINEERING CHANGE PROPOSAL FOR COMMONALITY –

Following contract award, an effective opportunity to embrace commonality without imposing constraints on the contract performance is through the use of the Value Engineering Change Proposal (VECP) process. As directed by the Federal Acquisition Regulation (FAR) Part 48 and AFI 63-101/20-101, the VECP clause is typically found as a clause on each Air Force contract.

FAR Subpart 48.1—Policies and Procedures

48.101 General.

(a) Value engineering is the formal technique by which contractors may (1) voluntarily suggest methods for performing more economically and share in any resulting savings or (2) be required to establish a program to identify and submit to the Government methods for performing more economically. Value engineering attempts to eliminate, without impairing essential functions or characteristics, anything that increases acquisition, operation, or support costs.

(b) There are two value engineering approaches:

(1) The first is an incentive approach in which contractor participation is voluntary and the contractor uses its own resources to develop and submit any value engineering change proposals (VECP's). The contract provides for sharing of savings and for payment of the contractor's allowable development and implementation costs only if a VECP is accepted. This voluntary approach should not in itself increase costs to the Government.

(2) The second approach is a mandatory program in which the Government requires and pays for a specific value engineering program effort. The contractor must perform value engineering of the scope and level of effort required by the Government's program plan and included as a separately priced item of work in the contract Schedule. No value engineering sharing is permitted in architect engineer contracts. All other contracts with a program clause share in savings on accepted VECP's, but at a lower percentage rate than under the voluntary approach. The objective of this value engineering program requirement is to ensure that the contractor's value engineering effort is applied to areas of the contract

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that offer opportunities for considerable savings consistent with the functional requirements of the end item of the contract.

AFI 63-101/20-101 Table 4.2—Other Acquisition Planning Requirements

Value Engineering

VE is one of the tools in the AF acquisition continuous process improvement tool kit. PMs include VE requirements on contracts as required by FAR Parts 48 and 52. Reference: FAR Part 48 and 52; DoDI 4245.14

DEFENSE STANDARDIZATION PROGRAM (DSP) –

Another example of Department of Defense guidance available to support increased commonality is the Defense Standardization Program (DSP). The DSP is in charge of **standardization** throughout the Department of Defense (DoD) to **reduce costs and improve operational effectiveness** and is governed by DoD Instruction 4120.24. The program is run by the DoD Standardization Program Office (DSPO). The DSP seeks to identify, influence, develop, manage, and provide access to standardization processes, products, and services for warfighters, the acquisition community, and the logistics community to promote interoperability, reduce total ownership costs, and sustain readiness. DSP is a comprehensive, integrated standardization program linking DoD acquisition, operational, sustainment, and related military and civil communities providing an abundance of resources for program offices to seek efficient use of commonality.

As defined by the DoD Manual 4120.24-M, the goals of the DSP are:

Reduce total ownership costs by:

(1) Reducing the number of nonstandard parts.

(2) Facilitating competition.

(3) Promoting the use of common processes and open systems.

(4) Promoting standard commercial processes and practices.

(5) Reducing training costs and standardizing best training practices.

(6) Optimizing systems engineering requirements by reaching a consensus on requirements.

(7) Keeping standards current by incorporating cost-saving changes and lessons learned.

Improve military operational readiness by:

(1) Achieving interoperability of systems, subsystems, and equipment with U.S. allies and among the Military Departments.

> *DoDM 4120.24, September 24, 2014*

(2) Reducing the variety of supply items to improve logistics support.

(3) Improving the reliability, maintainability, and safety of systems and supply items.

(4) Modernizing existing systems, subsystems, and equipment through the insertion of new technology and parts.

(5) Ensuring relevance of standards to the warfighter.

Reduce cycle time by:

(1) Using readily available standard items.

(2) Identifying interchangeability and interoperability requirements to permit rapid introduction of new technologies.

Through the effective use to common parts and processes, the program office can achieve efficient sustainment through interoperability and cooperative military-commercial integration. Program decisions made early in the life cycle typically have a far greater impact on the program; however, there are opportunities to introduce commonality throughout the life cycle, from inception through development, sustainment, and disposal. The guidance and instructions mentioned in this appendix are just a small sample of the abundant resources available to support decisions and increase the efficient use of common parts and processes.

ADDITIONAL RESOURCES AVAILABLE –

NAVSEA Commonality Handbook: https://acc.dau.mil/adl/en-US/689653/file/76307/Commonality%20Handbook_V1_DEC%202013.pdf
Navy Virtual Shelf: https://acc.dau.mil/virtualshelf
RAND Arroyo – Commonality Study: http://www.rand.org/pubs/monographs/MG719.html
Defense Standardization Program: https://www.dsp.dla.mil/
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